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THE TEACHER.

THE TEACHER.

Hints on School Management.

BY

J. R. BLAKISTON, M.A.,

One of Her Majesty's Inspectors of Schools.

London:
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PREFACE.

THE following hints are published in the hope that they may prove useful:—

(1) To Teachers, as comprising instructions which they have repeatedly to impress upon their assistants.

(2) To Managers, as aids towards forming a right estimate of the tone, discipline, and methods of instruction which prevail in their schools.

It is conceivable also that persons engaged in teaching children of the upper and middle classes may learn something by studying methods which have produced good results in elementary schools.

No official sanction whatever attaches to any of the views here set forth. They are the result of a personal experience of twenty-five years spent in educational work by one who feels more every year how much he has yet to learn.

The subject of religious instruction has for obvious reasons been left untouched. Where managers have a due sense of their grave responsibilities, they will take every care that religious teaching receives that thought and attention which its paramount importance deserves.

Such managers would no more leave everything to teachers than would the colonel of a regiment leave all to its adjutant and subalterns. They will depute one of their body to inspect the school daily, if possible, inquire into absenteeism, insure and test accuracy of registration, enforce cleanliness and tidiness, give advice and encouragement to their teachers,—exercise, in short, a real and thorough supervision.

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INTRODUCTION.

School Buildings and Apparatus.

WITHOUT suitable premises and appliances the best teachers cannot achieve all that could be wished.

Each department of a large school ought to have its own yard and playground attached. In a smaller school two may suffice, one for boys, another for girls and infants together. A mixed school ought to have either two playgrounds, one for boys over seven, the other for joint use of girls and infants; or else one playground for all, and two distinct yards and sets of offices.

The latter ought to be so arranged as to suit children of different ages, and to secure the utmost privacy compatible with due supervision.

The two sets of offices and the approaches to each must be completely separated. In country places the earth or pail system should be used wherever the proximity of a large garden makes it likely that the pails will have regular and constant cleansing. Where there is no certainty of such unremitting attention, the vaults should be carefully cemented and roofed, kept dry by free use of ashes, and frequently emptied. Where, as ought always to be the case, the yards are inaccessible to the

public, teachers may fairly be held responsible for seeing that the seats, walls, and doors are kept clean and free from foul or foolish writing.

Asphalte makes the best flooring for playgrounds, as it offers no facilities for stone-throwing. Drains, walls, roofs, eaves, spouts, windows, and doors must be kept clean and in good repair.

Each sex ought to have its own porch or lobby, with conveniences for hanging up caps, hats, shawls, &c., so as to avoid confusion and loss of time on entering and quitting school. Where there are many infants it is well to give them a lobby to themselves. Each department ought to have its own washing apparatus and supply of drinking water. In the smallest school an iron basin, water-can, soap, nail-brushes, and towels in some convenient place should be always available. Useful at all times, especially for infants, when needlework is on hand, they are indispensable.

Every school and class room, more particularly those intended for infants, should be well warmed and lighted, and present a cheerful and comfortable appearance. If the windows be not high enough (and they can hardly be too high) skylights should be inserted in the roof; as it is important that the children's shadows should not be thrown on their books, that writing on the Black Board should be clearly seen, and that the teacher should be able to look into the children's eyes, and they into his, without being dazzled by horizontal rays of light.

The walls ought to be frequently washed with some cheerful and clean-looking tint, as pale blue sage, or apple green in a town, salmon in the country. They must be hung with good maps, of sizes suited to the dimensions of the room, and a few well-selected pictures of animals, tools, utensils, trees, flowers, &c.; with, if

possible, some of the coloured prints issued with the illustrated weekly newspapers. A very small outlay on the latter will add greatly to the brightness of any school and to the pleasure of the inmates. No school, however small, should lack maps of (1) the World, in two hemispheres; (2) the British Isles; (3) Europe; (4) its own County. For an Infant department the World alone is wanted. From one-third to half of the width of the room should be kept free from desks and benches. This space or passage ought to be on that side on which are the doors, the fireplaces or stoves, and the book cupboards. In a central position in this space should stand the Head Teacher's table or desk, with locked drawers for Registers, Log Book, and private stationery. In spaces between the cupboards along the wall should be easels for maps and pictures, Black Boards, and pointers of various lengths. There should be one Black Board or large slate to every thirty children—one side of each of these should be ruled. In the cupboards will be at least two reading books for every child on the rolls,[1] an ample supply of slates (with one side *ruled*), pencils, pens, papers, inkwells, dictation and exercise books, chalk, and dusters. Reading books, slates, pens, pencils, dictation and exercise books, paper, and ink ought always to be supplied by managers, and their cost covered by a small addition to the school fees. Teachers will then be able to reduce to a minimum the wear and tear of books and waste of other materials which, as school property, are in their keeping. Poverty cannot then be pleaded as an excuse for broken slates, short pencils, bad pens, torn books, tattered copies, or the lack of any.

The remaining two-thirds or half of the room will be occupied by rows of parallel desks of various sizes carefully adapted to

[1] Variety of reading books may be secured by three or more neighbouring schools purchasing each two different sets and interchanging them every year.

the frames of the children who are to use them. They should be arranged in groups, if possible not more than three deep, with gangways about a yard wide between each group, and should allow room for a teacher to pass easily along each desk. By this arrangement of desks all the children face one way. On the wall facing the teacher should hang a well-regulated clock; on the opposite wall the Time Table, Seventh Section of the Elementary Education Act, and a large reprint of the admirable definition of tone and discipline to be found in Article 19 (A) of the New Code. The doors leading into the class rooms should be supplied with panes of glass so placed that the Head Teacher may look in without leaving the main room, but not so that the children can see from one room into the other. The room in which needlework is taught should be hung with demonstration sheets of various stitches, and should contain a Black Board having one side chequered with inch squares. There should be a large work-table for cutting out and measuring, with drawers for work and materials, &c. Managers should supply materials for needlework and let the children buy back at cost price the underclothing they make for themselves out of it.

An Infant school should be wider than one for older children to allow space for marching and Kinder Garten exercises. Instead of a huge unsightly gallery at one end, there should be two or more smaller galleries at convenient intervals, and a few flat desks which can be placed together in two's to form tables. The structure of an infants' gallery and their arrangement on it are matters that deserve more attention than they sometimes receive. Most galleries are too high. No child should look *down* on its teacher. The usual construction forces children to mount or descend seven or even nine inches at a step (which if not dangerous is at least ungraceful), allows them to drum with

their heels, and to soil with their feet the clothes of the children seated in front. No gallery should consist of more than four steps—three are better—from four to five inches high, and twenty-seven inches deep. The front bench should stand on the floor. The seats should be ten inches wide, with a backward slope, so that if the front edge be from eight to nine inches from the floor, the hinder edge will be from six to seven and a half inches. The backs should be eleven inches high, and have a slope of three inches from the perpendicular. The length of the benches should not exceed twelve feet—ten is better; and there should be an eighteen inch gangway at each side of the gallery—never in the middle. If the gallery have a fourth step, and consequently a fifth bench (say ten and a half inches high in front) the seats of the highest will be only from twenty-five to thirty inches above the floor level, and the teacher, standing four feet from the centre of the front row, will have before her a compact array of faces, directed *upwards* to her eye, which she can watch without turning her head.

Besides the apparatus already named, there ought to be sets of carefully chosen reading sheets mounted for use, boxes containing counters, letters, cardboard or wooden lines and curves to form letters, cubes, coloured wools, and some common objects suitable for gallery lessons, primers and first reading books, coloured prints, various and good, and as many Kinder Garten gifts as the mistress knows how to use.

Great pains must be taken to insure thorough ventilation of every room. As long as architects knew no better modes of ventilation than such as poured cold draughts from above on the heads and necks of the inmates, there was something to be said for teachers' suicidal practice of closing all ventilators in

cold weather, but a simple and inexpensive way of admitting fresh air without down draughts has now become generally known, and bids fair to be universally adopted.[1]

[1] It is effected by placing against the walls, at equal intervals, pilaster-like shafts, made of wood, zinc, or galvanized iron, about forty inches high, and two or three by ten or more inches wide at the inner opening, and about six by ten at the lower opening in the outer wall below the floor level. One such shaft in every ten feet on one side or in every twenty feet on both sides of an average sized schoolroom will be found self-acting in cold weather, causing no draughts, but keeping the air pure during school hours. It is also a good plan to place firebrick-lined stoves not on stone slabs, but on iron gratings, by which fresh air, entering from without, is warmed before being dispersed through the room. There can be no temptation for the most bilious to stop a mode of ventilation which introduces no cold *down* draughts. The combination of these two systems will keep any schoolroom in a healthy state. Similarly, sitting or bedrooms furnished with sash windows may be ventilated without draught by inserting a four-inch block or plank of wood between the lower sash and the sill, so as to let an upward current of fresh air enter between the two sashes.

THE TEACHER.

PART I.

GENERAL PRINCIPLES.

CHAPTER I.

TONE AND DISCIPLINE.

To ensure success in school work a teacher must be able :—

First, To keep good order;

Secondly, To teach well.

As good teaching is not seldom thrown away for lack of good discipline, it may be well to begin with a few remarks on the art of keeping order; and to note here and there, as opportunity occurs, such practices as tend to bring about a healthy tone. After this, we will review the means by which the various subjects taught in elementary schools may be most successfully imparted.

Unless a teacher learn before everything to maintain good order, much valuable time will be lost; there will be constant waste of breath and energy, and the teacher's health and temper will be worn out in a fruitless struggle.

Fair, if not even good, discipline can be secured by approved methods, which it is therefore the duty and interest of every teacher to learn and habitually practise.

A school, in which the children behave well so long as the

teacher's eye is upon them, may seem to an inexperienced visitor in perfect order; but if they begin to misbehave as soon as relieved of their teacher's presence, there is something amiss in the tone.

When a healthy tone pervades a school, it is chiefly due to a teacher's sterling worth making itself felt more or less by every one with whom he has to do. An earnest, unselfish, high-minded man cannot fail to exert at all times an influence for good—an influence that will grow and deepen with the growth of his goodness. But attention to sundry hints hereafter given may enable a teacher of less moral weight to do something towards imparting a good tone to his school.

Some teachers seem born disciplinarians; but every one, however naturally ill-suited for command, who will carefully study and practise the methods adopted by his more skilful and experienced colleagues cannot fail to achieve moderate proficiency. Again, others seem born teachers; but even these will more quickly and easily attain excellence by carefully observing the methods of those whose practice has been crowned with successful results; while others again, less highly gifted by nature, may, in time, by assiduous study of good methods, themselves become good teachers.

The least gifted may take heart when he bethinks him that success in school management depends mainly on *watchful and unremitting attention to little details, and on conscientiously grappling with every difficulty as it arises.* "The race is not always to the swift, nor the battle to the strong." If a teacher at all times *keep a high aim steadily before him, and struggle incessantly to attain it in spite of repeated failures,* his very mistakes, carefully noted and thoughtfully corrected, will lead to gradual improvement and ultimate excellence. For

> "men may rise from stepping stones
> Of their dead selves to higher things."

He should be ever on the look-out for better methods, apter illustrations, more vivid ways of putting things, however homely and familiar to himself. A lifetime is not too long to attain perfection in his art.

As children are keen to observe, quick to imitate, it is important that every teacher should *set an example of cleanliness and neatness in his own person.* With what grace can a sloven or a slattern insist on strict personal cleanliness on the part of assistants and scholars, or superintend that inspection of faces and hands which should take place at every meeting of the school?[1] A teacher's dress should be neat and in good taste, neither foppish, tawdry, nor untidy. The wearing of ringlets and trinkets by girls should be discountenanced. Finery and false jewellery may be kept out of schools by a judicious use of gentle ridicule.

A teacher who realizes the importance of bringing up children in habits of punctuality will be careful to set a good example in his daily work. He will be always in school *before the appointed time* to see that the room is clean, the fire properly lighted, the floor swept, and to set everything ready that will be wanted for the morning's work. School work should not merely "go on like clock work," but be regulated by the clock. It is essential that the school clock should be kept in good order, and show correct time every day. However strongly tempted on any occasion to deviate from the Time-table, a teacher should resolutely resist the temptation. Let him reserve for another lesson the apt illustration he was on the point of giving at the close of the appointed time. Yielding to such temptations tends to make teaching discursive and unmethodical. If lessons be *planned beforehand* they may be easily kept within bounds. A margin allowed for expansion or condensation will enable the inexperienced to do full justice to every lesson in its allotted time.

Unpunctuality is one of the chief disadvantages in elementary, as compared with secondary schools, and is one that can *never be checked by unpunctual teachers.* In the best managed schools the doors are finally closed at least two hours and ten minutes before dismissal, and later comers are not admitted. Truancy is checked

[1] A lobby fitted with washing apparatus should be provided in every school, and dirty faces and hands washed as soon as espied. In extreme cases it may be desirable for Head Teachers after due inquiry to send home children habitually sent to school dirty. But such cases demand great tact and consideration of home circumstances.

by parents being at once informed of any child's absence.[1] The hours fixed for the meeting of the school should be such as are generally convenient to parents,[2] and *punctual attendance should be no less rigidly enforced in elementary than it is in higher schools.*

Presuming on the advantages derived from their office and training, teachers occasionally assume airs of superiority over children and their parents, and behave as though they were of a higher social grade. Such a bearing is not conducive to good tone in a school, as it checks the growth of that kindly feeling which ought to exist between teachers and taught. The poor are keen to distinguish between gentle breeding and its counterfeit, and quick to resent with scorn any unfounded assumption of superiority.

Courteous and attentive to all, a teacher should show the utmost tenderness and encouragement to the timid, the dull, the weakly, the afflicted, and all to whom home circumstances (such as vicious parents, or unavoidable destitution) make sympathy and consideration especially needful and welcome. He should seek, as far as possible, to cultivate and maintain *friendly, not patronizing*, intercourse with parents of all classes, that he may enlist their good-will and co-operation for their children's welfare. Let him, however, beware of turning to a child's disadvantage in school anything that he may have learnt at a private visit to his home.

Apart from the advantage of enlisting the support of their parents, a teacher's knowledge of children's peculiarities of temperament and character will be much enlarged if he visit their homes. He will thus be able to apply special treatment to special cases, instead of treating all exactly alike.

On receiving offensive messages sent by parents through children, or having to listen to disparaging remarks from any of their friends, a teacher will do well to endeavour not to allow any symptom of annoyance to appear in his demeanour. He should

[1] Short printed forms of inquiry for this purpose will be found useful.

[2] *E.g.* 9 is the hour commonly fixed for opening school; but few children come before 9.15, and many not till 9.30. It would seem better to fix 9.25 as the hour; punish children late without written excuse, and admit none after 9.55.

carefully refrain from retorting or sending a verbal answer back by the child. A soft answer, if any, is generally the wisest and most dignified. Many a teacher ruins his usefulness, especially in country villages and small towns, by resenting impertinent messages sent by ignorant or unreasonable parents. In serious cases he should consult his managers; in less serious cases it may be better to visit the parents in person and speak to them calmly and kindly. Such forbearance will often make a friend where a less conciliatory mode of treatment might have made an enemy. In any case, a teacher should be always willing to waive his strict rights and dignity for the good of the children. Their time at school is short. That teacher best consults his own interest and comfort who, by the conscientious discharge of his duty, shows that he has the true welfare of his scholars at heart, and that his every action is prompted by a wish to influence them for good.

When children ask their teacher for information on subjects with which he has little or no acquaintance, he should not be ashamed of frankly owning his ignorance; certainly he should never attempt to hide it by asserting that of which he is not quite certain. If, however, he will take the first opportunity of acquiring the needed information, his scholars will teach him as well as he them. Teachers have been known to boast that they never allow their scholars to believe them ignorant on any subject. How can such teachers discharge one of their highest duties,—namely that of striving by daily practice and personal example, as well as by precept, to implant in children's minds, an earnest longing for self-improvement and culture, and, what is of yet higher importance, a heartfelt respect for truth, thoroughness, and honesty in every detail of work?

When a child is detected in the act of copying, or getting assistance unfairly, he should be shown the twofold harm he is doing himself—

First, by falling into untruthful habits;

Secondly, by leading his teacher to believe that he knows what he does not, thus losing the chance of receiving further instruction till he has mastered his task.

Such a habit, moreover, if not promptly, vigorously, and

habitually checked, will inevitably bring disappointment and failure on the day of examination. It is the practice, therefore, of prudent and experienced teachers, while endeavouring to instil, yet never to reckon on, a high code of honour among children, but to adopt such methods as will make copying impossible. A teacher should blame himself whenever he detects such acts of dishonesty as good and watchful discipline would have prevented.

In all his dealings with children a teacher should scrupulously avoid the slightest appearance of partiality or favouritism. Nothing so arouses the anger of the mildest tempered child, or is so fatal to a teacher's influence for good, as any word or deed savouring of unfairness. The most trivial act of injustice will often rankle for years in a young mind.

If at any time, from infirmity of temper or physical irritability, a teacher does or says anything unjust or unkind, or speaks or acts hastily or angrily to a child, he ought never to be ashamed to own himself in the wrong.

When a teacher feels his temper ruffled by a child's misconduct, it is better in most cases not to *speak or act at the time*, but to wait till he can reason with the offender, not merely calmly, but even lovingly.

He will bear in mind that punishment *is in itself an evil*, though at times it may be expedient, nay even necessary; especially in the case of children spoilt or ill brought up at home. Its necessity may almost be said to imply more or less of *failure on the teacher's part.* He should certainly never resort to it when he can do without it. He should trust to persuasion, remonstrance, warning, encouragement, rather than to *scolding or threats.* If he feel no cause for self-reproach when he has to punish, he should at any rate seriously consider whether in future better management and tact would not equally well attain the end desired.

Whenever he is satisfied that it is his duty to inflict punishment he should make it clear that he does it unwillingly, sorrowfully. In punishing he should consider *not what is deserved but what is best.* He must never allow himself to be swayed by *personal feeling*, but should endeavour to enter into the feelings of the

children with whom he has to deal. He should bear in mind that his duty is not merely to teach, but to train, to *educate*, to draw out powers, to stimulate to exertion, to overcome sloth and evil, *not by repression, but by good, to replace the worse by the better.* When this is the tone prevailing throughout a school the children will be ruled *less by fear than by love*, and punishments of any kind will be rarely resorted to or required.

Corporal punishment should of course be administered by head teachers alone. No assistant or pupil teacher should be allowed on any pretext to touch a child either with his hand or with a cane. *An interval of at least one hour should elapse between the time of the offence and the infliction of the punishment.* The punishment *should be inflicted publicly and entered in the log book* with full particulars.

A teacher will do well to be as often and as much as possible with his scholars in the playground, trying to be in heart a boy among boys. He will there bestir himself to keep them active, teach them good games, and put a stop to rude romping and bullying. His presence may often check the beginning of evil, impart a healthy tone to their amusements, and give him opportunities of setting an example of fairness and good temper, of cheerful obedience to rules, of honour and truthfulness in word and act. It will also teach them to look upon him as a friend, thus strengthening the bonds of sympathy between him and his scholars, and increasing his influence over them for good. He will be very careful however, both in the playground and in the school, to let "bygones be bygones;" that is, never to allow anything that may have gone wrong in the one to be brought up again in the other. Nor is it wise to resent the rough behaviour of rude children. Studied courtesy is at once the best reproof and the surest cure, the likeliest means of shaming them out of ill-behaviour, and of teaching them good manners and language, consideration and respect for others.[1]

[1] When a Manager or Inspector, upon entering or leaving a school, greets the children, they should *rise and return the greeting respectfully*, as becomes their youth. When *no greeting* is given respect is best shown by the children going on with their work.

He should take special pains to cultivate a genial disposition, a cheerful temper and bearing. The sunshine of a smile, even a hearty laugh, will do no harm where the tone of a school is of the right kind. Firm discipline indeed is essential to true kindness, but does not necessarily imply pompous or gloomy solemnity.

It may seem superfluous to warn teachers to pay due attention to their health, but daily experience shows the necessity of serious warnings. Impaired health is not only a source of discomfort to the sufferer, but it saps his energy, sours his temper, adds to his fellow-workers' labour, and robs his scholars of his best efforts. Plain meals taken *regularly* and with intervals of about four clear hours between each, daily walking exercise, or games in the open air, and *woollen clothing next the skin all the year round*, thicker or thinner according to the season, are essential to the maintenance of good health in this variable climate. Teachers who do not take regular exercise become morbidly sensitive to draughts, and shut all the inlets by which fresh air can be admitted to a schoolroom, thus poisoning with foul air the children as well as themselves, and seriously impairing the working power of the brain.

CHAPTER II.

CLASS MANAGEMENT.

WHEN in charge of more than one class a teacher should stand[1] where without change of position he can see every child. The children in each class should be so grouped that the front rows are occupied by the backward, the dull, and such as most need supervision. The children should sit at equal distances from

[1] In the case of female teachers occasional sitting is recommended by medical men as less exhausting. High chairs with foot-rests should be provided for this purpose, so that the teacher's eye may command every corner of her class.

one another, neither too close together nor yet too far apart. When some of those who usually fill a group of desks are absent, the children present should be seated in a compact mass, instead of being allowed to sit straggling at irregular intervals. Care should be taken not to seat two or more troublesome children near one another. Whatever work a class be doing *none should be left unemployed.* The teacher should never, without urgent cause, quit his position. He should so use his eyes that each child may feel himself to be under their influence, that he cannot stir without being observed.

When teaching a class seated at parallel desks he should stand about four feet from the centre of the front desk, so that without turning his head he can view the whole group at a glance and readily eye every child in turn. When a stranger, or superior approaches, he should refrain from advancing nervously towards the front row; as then, no longer feeling his eye upon them, the children there seated (who as before intimated, should be the more troublesome) will fall into inattention or disorder. If the teacher's heart be thoroughly in his work, he will gradually grow out of that self-consciousness which makes him feel shy and awkward, while his teaching is being overlooked. When unmistakeable signs of general weariness are noted in a class of young children, the whole should be smartly exercised for a few seconds; but if this has often to be done, there must be something seriously amiss in the teacher's method or manner (usually a lack of sprightliness, or of cheerful utterance), which he will do well to search out and amend.[1] When he has to reprove an offender by name, he should do so without any appearance of anger, but with studied composure of voice and mien. An inattentive child is best rebuked by being asked what his teacher has just said. Order should be maintained as much as possible *by the eye.*

[1] It may be well to note here that no subject should ever be pursued for more than three-quarters of an hour, and that the ten or fifteen minutes allowed for recreation at each meeting of the school should invariably be taken in the *middle* of the sitting, not, as is sometimes the case, at 11.15. It should be remembered that a grant can be reduced for an ill-adjusted Time Table, and that H.M. Inspector's approval refers only to a Time Table's conformity with Section 7 of the Elementary Education Act, 1870.

When children are standing in class, let them stand strictly in line, at exactly equal intervals. If they occupy three sides of a square (as when arranged round a group of parallel desks), crowding and overlapping at the corners should be carefully checked. When they are seated in rows, each should be compelled to keep his correct distance throughout the lesson.

Lounging, putting hands in pockets, fidgetting or looking about during lessons, should on no account be allowed. Books, slates, pencils, &c., should be passed to and fro in strict silence at the beginning and end of each lesson, as methodically as buckets at a fire. In the seating or unseating of a class, every movement should be done by each child in exact time at the word of command, and they should march to and from their places with arms folded *behind*, keeping equal intervals, and strict time. *No teacher should ever push or pull children* who lose their places either during this manœuvre or on any other occasion. Some teachers have a bad habit of walking to and fro, like caged lions, in front of a class, while they are teaching. A restless teacher makes a restless class. It is better to stand erect and steadily on one spot, never lounging, putting hands in pockets, or resting one leg on a form. Affected gait and postures should be avoided, as they tend to distract children's attention from the teaching, and to provoke ridicule. Listlessness of manner on the teacher's part will speedily spread through his class. In lessons requiring animation however, easy and natural gestures of arms and hands to aid the eye and voice are decidedly worthy of encouragement. Success in class management depends on strict attention to such details as these.

Children should never be allowed to rise from their seats in eagerness to answer questions, or to correct mistakes. They should be instructed always to raise the right hand to show readiness to answer if called upon or pointed at, but never to answer until so called upon.

The same child should not be called upon too often to answer questions. A young teacher is often misled as to the results of his teaching by a few sharp children answering his questions smartly. He should *never be satisfied until he gets answers from the inattentive and dull.* Questions should never be put

requiring only "yes" or "no" for answers, nor should recourse be had to that pet resort of feeble teachers of interlarding their lessons with "don't we?" "isn't it?" "shouldn't you?" &c. Nor should any leading questions be put which, by suggesting the answer, save children the trouble of thinking. The form of the questions may if necessary be varied; indeed, every device should be tried to make children think and express their thoughts in their own words. Advantage should be taken of wrong answers to correct mistakes into which, if left uncorrected, other children may fall; but care should be taken not to unduly discourage the shy. The teacher should check answers learnt by rote from text books, and insist on the substance being expressed in a child's own language. *Simultaneous or collective answering* should be very rarely allowed as *e.g.*, at the summing up of a lesson. Its real use is to impress on the memory of a class a correct answer given by one child. Its abuse or too frequent use is fatal to progress.

An eye trained to quick yet steady watchfulness is the teacher's best weapon for maintaining discipline. The eye should be aided by the hand used to warn, beckon, point, or direct, but rarely, and indeed only in the last resource, by the voice.

The voice is too valuable an instrument to be needlessly or recklessly employed. A word should never be used where a look or a sign would suffice. Care should be taken *habitually to avoid harshness or undue loudness of tone.* Every teacher should *acquire the habit,* which all singers have, of *taking in breath always by the nostrils, never by the mouth.* This is of great importance to health, and will enable a speaker to modulate his voice so that its very tone will give some intimation of his meaning. A teacher should speak as a rule on as *low* notes as he finds by practice he can use with ease and comfort, and without any appearance of affectation. Every word should be uttered slowly, yet without drawling, distinctly and deliberately, yet naturally, and proper pauses should be made between the phrases of each sentence. A quiet, calm utterance is with all children most effective in arresting and rivetting attention, and is yet more impressive with children previously accustomed to disregard the habitual scolding of a high-pitched voice. *A noisy teacher makes*

a noisy school. Gentle speech tends to produce gentle movements, and gentle manners. The voice of the weakest, *properly managed*, will carry the speaker's words without shouting to every ear in any well-constructed and well-organised school. It is a good thing to practise reading and reciting aloud on different notes, in and out of school, in the open air, and in all sorts of rooms, always with head erect and shoulders thrown back, till a speaker finds that part of his voice which carries his words furthest and with least effort. Children should from the first be trained to turn their eyes promptly to their teacher's at his least utterance. His health and comfort, as well as the order of his class, are most seriously affected by the proper use of the voice. Of course he should also habitually take pains to avoid using any vulgar slang, or ungrammatical expressions in speaking to children, in or out of school. The young teacher especially should keep strict watch over his tongue to avoid this fault, which is as objectionable as it is unhappily common.

It is of supreme importance that a teacher should be always in earnest over his work, as then his earnestness cannot fail to impart itself to his scholars. If he treat a subject as unimportant, they will become listless or frivolous.

He should never tire of going over the same ground again and again, till his dullest scholars have completely mastered all that he has been trying to teach. He should make it his practice during every lesson to watch the dull and careless, and never rest satisfied till he feels that he has aroused *their* interest and is keeping *their* attention. Let him spare no pains to find out children's difficulties, and to explain everything in the simplest words, however plain it may seem to himself. If, as must often happen, he find it hard to make them understand, instead of showing impatience, let him repeatedly try to make everything perfectly clear. A good teacher will never blame children for dulness which they cannot help, but will rather blame his own inability to discover and smooth away their difficulties. He will take nothing for granted, but will test his work frequently and thoroughly, knowing that otherwise, when an outsider tests it impartially, its imperfection and unsoundness will be detected.

It is of the utmost importance that every child's attention should be kept unflagging during school hours. Habits of inattention, fostered by a teacher's oversight, often prove nearly as fatal to success in examinations as imperfect knowledge. For instance, a child habitually careless and inattentive, especially if naturally sharp, will not take the trouble to look over his sums, or to listen carefully to dictation and questions. The same habits, becoming ingrained as the child grows up, will seriously mar his usefulness in after life. An observant attentive dullard is far more likely to turn out a good workman than a sharp but careless boy.

PART II.

INFANT SCHOOLS.

1. *General Rules.*—2. *Reading.*—3. *Writing.*—4. *Counting.*—5. *Form and Colour.*—6. *Common Objects.*—7. *Natural History.*—8. *Learning by Heart.*—9. *Marching and Singing.*—10. *Needlework.*

1. *General Rules.*

INFANTS are taught chiefly through the eye. The main faults in their instruction arise from teachers overlooking this. Little children, being "unconscious mimics," delight to imitate what they see and hear both by voice, gesture, and drawing. Good use should be made of these natural instincts. Their lessons should be made not merely as little irksome, but as attractive as possible. The Germans have recognized these points in their admirable Kindergarten system, which is at length finding its way into our schools. To carry it out thoroughly, however, requires a larger teaching staff than most managers have as yet seen their way to employ in Elementary Infant Schools.

An even temper, a gentle, sympathetic voice, a kindly and cheerful mien, are essential for success in the teaching and management of infants. Very useful too are a *good memory for stories*, and that lively fancy which enables the teacher by voice, eye, and gesture to give such vivid strokes and delicate touches to the scenes and things described as to make the

listener seem to see and hear things. If a teacher be fond of children she may to some extent acquire this art by carefully noticing what interests and amuses them. When she wishes to speak to them of something which they have not seen, she should lead up to it very gradually by careful comparison with things familiar to them. She should never trust to verbal explanations and illustrations, however clear or minute, when she can possibly get the thing itself. She should be on her guard against any abuse of what is called "elliptic" teaching, to which inferior infant schoolmistresses far too frequently have recourse. How silly and useless it is for a teacher to say "Glass is trans—" then pause for the children to say, "parent." "Wood is o—," children, "paque"; and so on for many minutes at a time. A skilful teacher will avoid the necessity of using hard words. She has to teach *things*, not *words*. Infants learn nothing by repeating after their teacher, "Iron is fusible, malleable, ductile," &c. Whatever meaning such words convey to the teacher's mind, they can convey none to little children. To them they are hard sounds, difficult to utter, and nothing else. If they are to learn anything of iron, they must be reminded of what they have seen a blacksmith doing, or might see their teacher doing with a piece of iron wire and a fire, and must have their attention drawn to various things made of iron in the room.

2. *Reading.*

In reading and spelling good results are often attained only by an undue expenditure of time and toil. Teachers might spare both themselves and the children great weariness if they would recognize the difficulties created by the fact that the names of our letters seldom form the least clue to their sound, use, or power, when combined in syllables and words. They would then see that they have to solve simultaneously, yet without confusion, *two* problems, each of which is the converse of the other, namely, to enable children:—

(1) To recognize and sound at sight the combinations of letters in syllables and words.

(2) On hearing syllables or words sounded, to write correctly

the combinations of letters which represent the sounds they hear.

It is not easy to discover on what, if any, principle the reading-sheets and primers commonly used are based, but it is certain that in few schools as yet is the teaching of reading based on natural principles. Nothing but long habit could close teachers' ears to the absurdity of saying "see oh double-you, cow," and so on. Such absurdities follow naturally from the practice of beginning by teaching children "their letters," *i.e.* their *names* instead of their powers.

Good use should be made of children's *eyes* to familiarize them gradually with those combinations of letters which are most frequently used; of their *ears* to associate the correct *sounds* of those combinations with their *appearance;* and of their powers of mimicry, to induce them to imitate the movements of their instructor's lips and tongue, so as to repeat every sound correctly after her. A skilful teacher will take pains to keep out of sight in the earlier stages of reading lessons, all such irregularities of vowel sounds as are found in "where," "there," "one," and sundry other monosyllables, which are far more difficult to a child than long words like "Mesopotamia," in which no unusual power of any vowel occurs.

One of the most successful teachers of reading to infants attributes her wonderful results to the following system. She takes a class of four-year-old children and makes them sound accurately after her all the "voices" or powers of each vowel regularly used in English. The children are not shown the signs which represent those sounds, *i.e.* the letters, until they are able to sound all the voices accurately. By carefully withholding all irregularities of sound, and gradually combining the vowels with consonants sounded phonically, she enables children at six years of age to read fluently from advanced books.[1]

Purity of intonation, clearness of articulation and enunciation, a good ear, and strict attention to secure from the children accu-

[1] The teacher referred to uses Sonnenschein and Meiklejohn's *English Method of Learning to Read.* Reading sheets, primers, and books based on the same principle are now being published by several firms.

rate reproductions of every sound uttered by the teacher, are absolutely essential to the success of the system. The results to be achieved, however, more than repay the personal trouble required to ensure them. To the teacher as well as to the taught it is infinitely less wearisome and more interesting than what is called the alphabetic system.

A beginner must carefully refrain from telling children the *names of any consonants* in the earlier lessons. A little practice will soon enable any one to sound them "phonically," and indeed the very effort to give the force of a consonant apart from a vowel has a tendency to improve articulation. Thus, after children have learnt to recognise and sound at sight the combinations '*ad*' and '*ade*,' the teacher, instead of saying 'bee' and 'emm' on showing the letters *b* and *m* prefixed to either, will bid the children watch her lips and imitate their movements as she forms them into the shape required for pronouncing 'b' and 'm.' She will then give as much of the effect of each of these consonants as can be given without any vowel before she unites them with the syllables and utters or allows them to utter the words 'bad,' 'mad,' 'bade,' 'made.'

Teachers previously accustomed to teach reading alphabetically must not allow themselves to become disheartened by the seemingly slow progress made by children during the first few months. Their steady progress afterwards and the confidence with which they will soon grapple with words will more than repay patient waiting. To ensure good spelling every reading lesson should be followed by transcription of the words newly read and mastered and after that again by dictation of the same words. If words spelt amiss be written out several times the children can hardly fail to become good spellers. Infants *should never be asked to spell a word aloud* but always to *write it down*. Reiteration of the sounds "bee-you-en" bun, by way of impressing the spelling on the mind, is in violation of the known fact that spelling depends on *the eye not the ear*.

3. *Writing*.

Advantage should be taken of children's natural instincts in their first lessons in writing. They should be supplied with sticks

wherewith to form all letters that are made up of straight lines; then with rings and half-rings of cardboard to form letters like B, C, and P. After this they are to be encouraged to draw letters in *printed* characters on slates and black boards. By such means children learn first the forms, then the powers, and afterwards the names of the letters with little trouble to their teacher and with no little amusement to themselves.

As soon as infants are to write upon slates they should from the very first be drilled to take up their pencils with the SECOND finger and thumb, and to raise them thus held for inspection at the beginning of every writing lesson. The forefinger should point upwards and not be placed on the pencil until writing begins. This drill will ensure their habitual use of the second finger in writing, and counteract the tendency to its disuse in after life. No child should be allowed to write with a pencil shorter than four inches. Tin holders should form part of every school's permanent stock and be supplied to children as soon as their pencils become short. For *drawing*, not writing, on slates, short pencils may be allowed.

4. *Counting.*

Counting is best taught by means of pencils, buttons, nuts, or counters. Children should not be allowed to count on their fingers, as that is a habit which it is difficult afterwards to break off. It is important also to have addition subtraction and multiplication tables learnt by heart, and recited or chanted in unison by infants while they are assembling, marching round the room or playground in mid-school time, or preparing to go home. Great pains should be taken to wean infants gradually from the use of actual things to count with, to enable them to pass unconsciously from the concrete to the abstract. If they have been well taught, most children at the age of five will be easily able to add together mentally any number not amounting to more than ten, and to subtract numbers not exceeding seven. At the age of six they will readily add, and write figures up to twenty, and subtract up to ten, and when orally tested in such sums they will answer promptly and correctly.

5. *Form and Colour.*

The instruction given to infants on Form and Colour is often too mechanical to interest them or to be of any educational value. In teaching shapes, hard names, as pentagon, rhombus, &c. may with advantage be left alone. To be of real use to children lessons on form should be so given as to encourage quickness in counting and accuracy in outline drawing. Advantage should be taken of mistakes in drawing to train their eyes to see things correctly. Attention should be drawn to simple shapes of common objects in the room, as bricks, window-panes, slates, cards, clock-face, &c. In lessons on colour children should not be worried with strings of names of different shades, but should be invited to notice the colours in their clothes, odds and ends of coloured silks and wools; and find out like colours rather than to learn their names. In country schools a teacher should refer to well-known wild flowers, encouraging the children to bring flowers to school daily, and commending good taste in arrangement of nosegays. This may have the effect of gradually training their eyes to an instinctive feeling for harmony of colour.[1] The mistress will of course be careful not to let her own dress show any violation of good taste in colour.

6. *Common Objects.*

Infants should have well-arranged, thoughtful, and interesting lessons on the common things which they see or use daily, as materials of Food, Drink, and Clothing, Houses and Furniture, and natural events of common occurrence. In all these lessons the simplest words should be used, and they should be led on

[1] The laws of harmony and contrast, between secondary colours at any rate, can be easily remembered by the simple device of placing the three primaries, yellow, red, blue, at equal distances from each other round the edge of a circle. Any diameter of this circle will show complementary colours at each end. Thus a diameter starting from red will fall between blue and yellow, that is, on green; one starting from blue will fall between yellow and red, that is, on orange; one drawn from yellow will hit purple or violet. It will be found that the eye is satisfied when red is balanced by green, orange by blue, yellow by violet. For infants these elementary contrasts will suffice.

slowly and step by step *from what they already know to what is new to them.* The teaching should be reiterated with endless variety of illustration till they have thoroughly digested the mental food set before them. The most patient skill should be used to draw out their powers of observation and to train them to compare like and unlike. The teacher should always *think over her subject well, and draw up notes for every such lesson before she comes to school.* She should not try to save herself trouble by taking such notes from a text-book, but should *think them out for herself.* There should be a distinct aim in every lesson, and the subject matter should be so arranged as to work up to it. Free use should be made of things and pictures, and the chief headings should be written on the Black Board, so that at the end of every lesson all may be summed up, and then the result tested by questioning. Neither *the summing up nor the questioning should ever be omitted. Both are essential.*

It is not wise to be always tacking on a moral to every lesson. An earnest tone and devout manner are far more likely than the repetition of set phrases to awaken feelings of reverence and loving awe in a child's mind; to foster in it a sense of the beautiful, and of the reign of law; and to awaken in its heart a love for all that is good, kindly, and generous.

7. *Natural History.*

The interest which infants naturally take in animals should be made use of to cultivate their powers of observation, and to deter them from thoughtless acts of cruelty, by arousing feelings of interest and love for the brute creation. Even in towns there are horses, cows, dogs, cats, rats, mice, poultry, sparrows, swallows, toads, beetles, spiders, flies, and the fishmonger's slab. Good use should be made of these to serve for illustration and comparison in giving lessons from pictures of well-known foreign animals. Such lessons should be given *not by haphazard, but in groups.* Thus the cat will enable the mistress to lead up to the lion, tiger, and other large cats; the dog will introduce the wolf, fox, hyena. The horse and the cow will furnish introductory ons to the elephant, hippopotamus, camel and deer. Unless

a teacher's memory be unusually ready and retentive, she will find it well to *set down in a note-book any simple stories of animals she may hear or read.* Nothing better serves to arouse the interest and fix the attention of infants than a *well-told story.* Technical terms, such as ruminant, rodent, &c., should be carefully shunned. In lessons on animals a teacher should not venture beyond her depth in dwelling upon the parts of an animal and their uses. A more accurate knowledge of anatomy than most teachers possess is needed to justify much detail. Nor is it wise to be continually attributing to the direct goodness of God the adaptation of animal structure to animal wants.

In a country school a teacher will freely avail herself of the sights and sounds familiar to the children in their daily walks: farm-work, birds, beehives, ant-hills, storms, snow, brooks, fruit and forest trees, hedgerow plants, &c. She will be careful however in this superabundance of interesting objects not to let her lessons become desultory, and her tongue wander aimlessly from one thing to another. *Good results are attainable only by good methods, and by lessons given with definite aim.* In object lessons, whether on common things, or on animals, whenever a fitting opportunity presents itself, children should be encouraged to draw things (as simple leaves, &c.) on their slates, or on the Black Board. Of course they will not at first draw very correctly, but drawing their best will afford good practice for eye and hand.

8. *Learning by Heart.*

One of the most important of all subjects for infant classes is seldom well handled, and too often wholly neglected, namely, learning by heart, and reciting with expression, good easy poetry, such as Wordsworth's "We are Seven," "Pet Lamb," "Lucy Gray," "Alice Fell," Southey's "Battle of Blenheim," Lord Houghton's "Good Night," many of Mrs. Hemans' shorter pieces, and other simple poems such as may be found in the *Children's Treasury of English Song, The Children's Garland,* and other like collections. Great pains must be taken to ensure thoroughly good recitation. Remembering children's aptness for

imitation, the teacher should spare no pains at the very outset, as well as at every subsequent reading or recitation of the poem to be learnt, to give correct expression and intonation to every word in every line, neither exaggerating stress, nor slurring over pauses. The benefit of committing to memory in childhood a goodly store of choice thoughts expressed in choice words, of beautiful pictures exquisitely drawn and coloured, and the effect in delighting, cheering, and refining the mind during the busy intervals of after life, can hardly be overrated.

9. *Marching and Singing.*

Good drill and marching are very important matters in infant training. Smartness and graceful action would be much better imparted were teachers to learn calisthenic exercises from a good drill sergeant. Marching is often attempted in too cramped a space, where the children being so crowded together as to tread on each other's heels, acquire a slow stamping step, as though they were on a treadmill. No more infants should ever be allowed to march at once than can step out naturally, and in time, without treading on one another's heels. No playing or talking should ever be allowed during marching, but lively airs in $\frac{2}{4}$ or $\frac{6}{8}$ time should occasionally be sung. Songs in four or common time, much more in three time, are utterly unfit for marching-songs. Attempting to march to such measures, children must inevitably give a *wrong* accent to the music, and lose all feeling for rhythm or measured beat. For variety, recitation or chanting of tables may be occasionally introduced during this exercise. It is a good practice to train children to march *two abreast*, with hands folded *behind, not before*, as this tends to open the chest. They should be trained to march in couples to the middle of the gallery, there part, the girls filing to one side, the boys to the other, and to seat themselves on the benches in order.

Songs to be sung by infants seated should generally be accompanied by imitative gestures, and care should be taken to make these gestures natural and appropriate. Infants singing a soldier's song may sometimes be seen ungracefully doubling

their fists to show fight, when they ought to be placing their left arms close to their sides as if holding shields, and to be raising their right arms, as though uplifting swords to strike. Again, in drawing an imaginary bow, instead of drawing the right arm back, children are often taught to thrust it forward as if the hand were the arrow. Whatever is worth doing at all is worth doing well. Trifles such as these make the difference between excellent and ordinary, between finished and rough workmanship.

It is much to be desired that music should be taught by note to infants, as it is now a well-established, if not well-known, fact that a skilful instructor can teach infants to read music before they can read books. It has been well done with such rude machinery as the five fingers of the left hand, used for the lines and spaces of the treble stave, and pointed to by the teacher's right fore-finger.

10. *Needlework.*

An Infant School should be divided into *four* classes for Needlework.

In *the fourth class*, composed of children from three to four years of age, all are taught simultaneously to *thread needles*, and then to *form a stitch*, according to the six steps suggested in Griffith and Farran's Manuals on *Needlework*.

The third class consists of children from four to five years of age. In this class they are taught to *fit a hem* (first on paper) so as to make a garment, which can be completed by *hemming* alone.

The second class comprises children between five and six. In this class they are taught to *sew* and *fell*, special attention being given to the *proper* way of holding both work and needle;—the fitting as in the third class being done first on paper.

The first class is composed of children from six to seven years of age. On entering this class the children are taught *to pleat* (first on paper) and to *sew on strings*. When each child has without assistance completed a garment in which hemming, sewing, felling, pleating, and sewing on strings are comprised, the

class may be allowed to take up *herring-boning*, *darning*, and *marking*.

The chequered board must be largely used in teaching the darning and marking stitches; but herring-boning requires much individual attention, and is perhaps best deferred to a later stage.

A teacher scared by the above outline of what *is actually done* in the best Infant Schools, may content herself with the following less ambitious scheme.

1. Threading needles by method.
2. Position-drill for learning to hem.
3. Teaching to turn hems (first on paper).
4. Hemming strips with black cotton, rising to red and blue, teacher at same time showing how to fasten on and turn corners.
5. Counter-hemming strips—sewing and felling.
6. Making simple garments, combining the above.

Knitting.

1. The children should be shown two knitting needles and cotton, and taught their uses.

2. The teacher should stand before a class knitting, calling as she proceeds the four terms, "needle through," "cotton round," "catch," "off;" the children should be provided with needles and cotton, and required to imitate her. They should learn to knit strips for garters, braces, dish-cloths, bath-towels, &c.

3. The children are then taught to purl with two needles, afterwards with four, learning to knit muffetees, socks, &c.

APPENDIX TO PART II.

OUTLINES OF LESSONS BY HEAD MISTRESSES OF GOOD INFANT SCHOOLS.

1. *The long sound of "A."*

Matter.

I. *The long sound of "A" worked out.*

Print in a column upon the slate the syllable "Ad." Let the children be required to pronounce it.

In a parallel column print the syllable "Ade." The children should be directed to notice the difference in the two syllables. The teacher then pronounces the syllable "*Ade*," requiring the children to repeat it, and to notice the difference in the *sound* of the two syllables, and to say why they are not pronounced alike. Tell the children that the syllables in the first column have the *short* sound of "A;" and in the second column the *long* sound.

Prefix the letters "B," "F," "H," "M," &c. before the syllables, requiring the children to give the sound of each, then to pronounce the whole word.

Method.

II. *Exercises.*—1. The children to read the words in succession two or three times.

2. Read any word pointed to by teacher.
3. Read a word alternately with the teacher.
4. Read the words from a printed board.
5. Spell them without the slate or printed board.
6. Print them on their slates from dictation.

2. *Glass.—Younger Infants.*

Apparatus.—Piece of glass. Some things made of glass.

I. *Qualities.* Show children a piece of glass; first let them discover all they can by looking at it. By comparing it with leather, or the floor, they will see that it looks prettier—it is bright. To name other things that are bright; to repeat: "Glass is bright."

Place a pencil behind a slate and ask what you are holding up; do the same behind a piece of glass; they will discover that we cannot see through the slate, but can see through the glass. Children to name other things that we can see through. Let a child feel the glass; he will discover that it is hard and smooth.

Let the glass and a piece of leather fall on the table, compare the results. Children to name other things that will break easily.

Let two children hold a duster by the corners; pour some water on it. Children to notice what happens. Pour some into a glass dish and require them to notice that the water does not run out. Children to name other things that will not let water through. Qualities to be repeated from the initial letters on the Large Slate.

II. *Uses.* Require children to name anything they have seen made of glass, in the room, at home; should show children different things made of glass. As each use is given, it should be put into a sentence and repeated, as "Glass is used for making windows;" "Glass is used for making dishes," &c., &c.

III. *Summary.* This to be made as the lesson proceeds, and to consist of the initial letters of the qualities and uses. At the end of lesson the summary to be read through from the slate. *Or*, the Summary may consist of short sentences repeated by the children after the teacher.

Note.—In all these lessons with young children, the teacher should pay great attention to the way in which they pronounce their words and should help them to give their answers in sentences.

3. *Glue.*

Matter.	*Method.*
I. *Qualities.*	
Glue is of a light-brown colour, and can be partly seen through.	These qualities to be observed by the children.
In its natural state:	
Hard, brittle, soluble in hot water; hardens as it dries.	Let a piece of glue be broken, to show that it is brittle. Prove that it is soluble by putting a piece into hot water. Bring before the children several articles which have been glued, to bring out the fact that it hardens as it dries.
In its liquid state:	Show the children some liquid glue, and let them see that it is
Soft, and very sticky.	both soft and adhesive.
II. *Uses, and Qualities on which uses depend:*	
Glue much used in making furniture, and other articles where great strength is required.	Children to be required to say where they have seen glue used, and for what purpose.
Glue useful, because it will dissolve in hot water; it is very sticky or adhesive; it hardens as it dries.	Children questioned as to why it must be dissolved in hot water; why so important that it is adhesive. By reference to other substances, such as treacle, &c., show the children the value of the hardening property of glue.
Glue is prepared for use in a Glue-Pot, which consists of two iron vessels, one placed within the other.	Bring before the children a Glue-Pot. Direct their attention to the outer vessel; why it contains water, and what would happen if the water became dried up.

III. *Manufacture of Glue:*

Made from the hoofs, sinews, and parings of horns and skins of animals.

Process of Manufacture.

1. Steeped in lime water, to remove the grease.

Tell the children this, and question them as to the reason for doing so. Let them know what effect will be produced by the lime-water.

2. Boiled, until all the soluble parts are dissolved.

This to be told by the teacher. The children questioned as to the effect produced by boiling.

3. Strained, to remove all undissolved parts; and boiled to drive off the water.

Refer to the fact that some portions will *not* perhaps dissolve; the children required to think what must be done. Tell them that after it has been strained it is again boiled, and becomes very thick when cold.

4. Cut into thin, flat, square pieces and dried upon coarse netting.

Lead the children by questions to see that this thick jelly must be dried before it can be used. Let them notice the marks of the net on a piece of glue.

IV. *Summary.*

The children to repeat the substance of the lesson; and to be questioned on it.

4. *A Letter.—Elder Infants.*

Apparatus.—Any written letter, sheet of note-paper, envelope and postage-stamp.

I. *Introduction.* Imagine a child away for a holiday. He is very happy. Would like to tell his mother something that has

happened. He cannot go home to her. How can he tell her? He can write to her. What do we call what is written? On what is a letter written? What is the paper called? If not known, tell them—"Note" Paper. Show a piece of note-paper, called a "Sheet." Question as to its colour, size, and weight.

II. *Contents.* Suppose a child is going to write. How would he begin? Show a letter that has been written; let children notice what is written in the right top corner (place and time). Then teacher in imitation of this to write in the right top corner of the Large Slate, the address of any one of the children when away from home, *e.g.*,

8, South Street,
Ramsgate,
Jan. 28th, 1878.

Besides this, let them notice the time is written underneath, and must be put in their letter too. Question as to what is the name of the present month, the date, and the year. If not known, talk to them a little about it (when once explained it is a very good practice to ask the children every morning to tell the date). Why necessary for the date to be written? Show the necessity by giving instances of what have happened through forgetting it.

Refer them to the letter again, and let them see that you next address the person to whom you are going to write. Teacher to write on Large Slate what the children tell her, *e.g.*, "My dear Mother." Then ask them what they would like to tell their mothers. As the various particulars are mentioned they should be written on the Large Slate. (It will require considerable care and attention to form the children's answers into suitable sentences.)

Refer to the letter again, and let them notice the end. Tell them we always have to sign our names at the end of a letter. Why is this necessary? If they cannot tell, they should be told of the numbers of letters lost through not having addresses.

Question as to what is done with the letter when written. Lead them to see that it is first folded. Why? (To fit the envelope.) Why should we use envelopes? What is done with

the envelope when the letter is in it? Let them examine the envelope and discover that it has gum on it ready for the purpose. What next is done before the letter is sent? They must then write the name of the person to whom the letter is going, and the place where she lives; must be sure to put the right name of street, and right number. Why? Might tell anecdotes of letters wrongly addressed.

When the letter is addressed and sealed, something else has to be done to it. (Posted.) Before it is posted must have a stamp on it. Show a stamp, let children describe it, say where it is obtained, how much it cost, what is its use. Should be careful to stick it on firmly. Why?

Then letter may be posted. Who does this? Where is it done?

5. *The Postman.—Elder Infants.*

Refer to last lesson on "the Letter." Ask what was the last thing they did with the letter. Obtain from children by questions what became of the letter after it was put in the Letter-Box. How did they know it was a postman who unlocked the box and took the letters away? Let them describe the dress of the postman; when and where he is seen, and what he is doing. Sometimes he is getting letters out of the boxes: this we call "collecting." Sometimes giving out letters at different houses —called "delivering." When he has collected all the letters he takes them to a large house, called the Post Office, where they are stamped (show a letter that has been stamped) and sorted. Show the necessity for this. They are then sent away. Some go into the country. Ask how these go? Taken in carts (to be described) to Railway Stations, then sent away in trains. Postmen take them. Teacher might speak of their working all the time they are in the trains, and throwing out the bags of letters at each station.

Then postmen have to deliver them at the houses. Question as to what time of day this is done. How are they able to see the addresses at night time? How do we know when the postman comes to our house? Require a child to knock like

the postman. What should we do when we hear his knock? Repeat: "We should never keep a postman waiting."

A postman should be able to read and write. He must be punctual. Show that it is necessary for people to have their letters at almost the same time every day. He must be quick and clean. We should not like our letters made dirty. Refer to the different things people send in letters, *e.g.* stamps, and lead the children to discover that a postman must be honest. Show children that it is their duty to seal their letters properly, so that the postman may plead no excuse for opening them. If they put any money in their letters they should take them to the Post Office to have them registered. Explain this.

Show also that it is their duty to write the addresses very plainly, so that the postman can read them at once, and not be delayed.

6. *The Beaver.—Elder Infants.*

Apparatus.—Picture of the Beaver and of any other animal to be used for comparison.

I. *Parts and Description.*—From observation of the picture and comparison with other animals, children to describe its parts. Tell them its size—it is about 2 feet in length—show something this length—children to name other animals the same size. Its body is thick and covered with fur of a glossy, brownish black. It has a broad flat tail, covered with scales. Hind legs longer than front and the feet webbed (this to be explained) claws, strong and slightly hooked.

Front teeth very strong and chisel-shaped (chisel to be shown).

II. *Habits, Food, and Adaption.*—Tell children Beavers mostly live by the side of water. They build their houses of pieces of wood, clay, sticks, and stones. Question as to where the Beaver can get his materials, and what he has to enable him to get them. Refer to the teeth with which he cuts the tree and gnaws off the branches—then show how he carries the wood between his front paws and throat. Tell children how the Beaver builds his house, and how he uses his tail.

Require children to say what the Beaver would find to eat. In summer they feed on the bark of trees (this to be explained), leaves, and berries, which grow near where they live—but what must they do in the winter?

Tell them that the Beaver stores up bark in his house, so that when the cold weather comes, he has plenty of food. Children to name other animals that do this.

III. *Summary.*—To be made on the Large Slate, as the lesson proceeds, and to be elliptical.

PART III.

BOYS', GIRLS', AND MIXED SCHOOLS.

CHAPTER I.

1. *Reading.*—2. *Dictation.*—3. *Writing.*

1. *Reading.*

DURING a Reading lesson, if the size of the class and the arrangement of the room be such that they must needs remain in their desks, their books should lie flat on the desks. If the class be smaller, it is better that the children should stand in a semi-circle, or form three sides of a square. The hints already given on Class Management should be borne in mind, and the teacher should take care always to place himself where he can see the children at both ends of the class without having to turn his head to right or left.[1] When books have been passed silently round, and it has been ascertained that every child has a copy, they should be told to open them at the page named, and then to hold their books well up in their left hands, forming book rests by propping their left elbows on their left hips. The book should be so held that their eyes may fall upon the page without their necks being bent, yet not so high as to screen their faces from the teacher's glance. Their right arms should be folded behind the back. This will have the effect of throwing up their heads, and of keeping their necks straight. The teacher

[1] It is well for a beginner to look straight over the middle of the class, and then note whether he can see without looking at the children at both extremes.

should set a good example by his own erect bearing. This is a matter commonly overlooked, but of great importance both to good reading and to general health. During the lesson the teacher should ascertain by constant watchfulness that no eye is wandering from the book. If he suspect a child of having lost its place he may call on it suddenly to read. It is not well in a general way to adopt the practice (customary, and sometimes necessary, with infant classes) of walking round behind the children to see that they are following the words with their fingers.

The usual course of a reading lesson should be somewhat as follows.[1] The teacher begins by reading a passage out in a clear, distinct voice, with natural unaffected expression, careful pronunciation, and fitting pauses. This he will only be able to do thoroughly well *if he has read and thought the piece over before school time, as he ought always to do*, unless he be previously familiar with it. The children should then be directed to repeat after their teacher all together, while he reads out a few words at a time. During this the teacher will listen carefully for an exact reproduction of his pronunciation, stress, intonation, and phrasing. If they fail to imitate him in these respects, he should call attention to mis-pronunciations, false or exaggerated emphasis, wrong accents, or to faulty or imperfect grouping of words. The passage should then be read out once more by the teacher, and the children directed to follow his style more carefully. If the failure be on the part of only a few children, these alone may be told to repeat the passage. When from ten to fifteen minutes, or about one-third of the whole time allotted to the lesson (which should last not less than thirty, nor more than forty-five minutes) have been thus spent, individual children should be called upon to read from the same passage, and their blunders should be corrected by children selected in turn from such as raise their hands on detecting mistakes. Praise should be given to those who best reproduce their teacher's style, and

[1] This practice and advice is based on the belief that reading is acquired by imitation. With this view many disagree. Such would naturally reverse the above process, and let each child struggle through a passage as best he can.

attention drawn to those who repeat faults which he had previously endeavoured to correct during the simultaneous reading. This may take from ten to twenty minutes, then ten minutes more may be spent in questioning the class with closed books on the subject-matter, explaining allusions, &c. &c.

Many teachers make fruitless attempts to relieve the monotony of reading-lessons with spelling, and not only so, but they make children spell difficult words over simultaneously a dozen times, ignoring the fact before named that the names of our letters furnish no clue to their sounds. This can never be good: but to vary the sameness of a reading lesson by questions on allusions or names of places and persons, is a practice which in the hands of a judicious teacher is to be encouraged. It is not amiss too occasionally to interrupt the reading by a few questions on grammar; as, in the case of a junior class, by calling upon children to name parts of speech, by such means helping to fix their attention as they go through each sentence; and in the case of older children, by bidding them parse, whenever their so doing may enable the teacher to ascertain whether they understand what they are reading.

In preparing a reading lesson out of school-hours, the teacher should be *careful to find out the exact meaning, and to learn the correct pronunciation of every word of which he is not sure.* On some occasions, to dispel listlessness, it may be desirable to question freely *during, instead of after, the actual* reading. Now and then it may be well perhaps for the teacher to allow children to struggle unaided through a passage, merely correcting mispronunciations, where necessary, and then to read the passage himself; but the reverse is usually better.

When poetry is to be read, the teacher should endeavour also to find out the construction of the metre. If he have an ear for time or musical rhythm, he may generally find out unaided the proper accentuation of lines of verse; but if he cannot do this, he should seek help from some one better instructed. Children should be made to feel the beauty of the measured fall of well-written lines, rather than the "jingle of like endings," and encouraged to learn good poetry by heart. This, well done, besides other benefits, will have a marked effect in

improving their reading. In junior classes, unless the children have been previously taught in a good Infant School, great pains should be taken to check the tendency—

(1) To jerk out each word disconnectedly, in a high key;

And (2) to separate "a," "an," and "the" from the word following.

Teachers should beware of committing the latter faults themselves, as is often done in giving out dictation, as also of sounding "a" as "eh," and "the" before a consonant as "thee."

2. *Dictation.*

It is a good plan, when otherwise convenient, to let a reading lesson be followed by Dictation from the part just read, because when set to write words which they have recently seen, children are more likely to spell them aright. The very fact of having once mis-spelt a word in writing tends to a subsequent repetition of the mis-spelling. When, however, dictation does not follow a reading lesson, it is a good plan to first exhibit the passage for dictation written on the Black Board, and then make the class read it aloud after the teacher. The board should then be turned, and the passage dictated by a few words at a time, the children sitting as hereafter directed for a writing lesson. As they proceed they should be warned to push their papers upward, instead of gradually lowering their right hands, as they will usually do unless cautioned. The children should be carefully watched as they are writing, and should not be permitted to glance to right or left, but instructed each as he finishes to look to the reader, who can then time his dictation by noting the slowest. The value of the exercise is seriously impaired if children have any chance of getting or giving assistance. It is unwise to pick out strings of hard, rare, or unknown words. Such passages should be given as require children to mark the sense and connection of the words. In phrasing dictation, regard should be had rather to the sense than to the exact number of words to be given out at a time. The length of the passage should be so regulated as to leave ample time for correction. Of the whole

time allotted to the lesson *not more than one-third should be spent in giving out* the passage. Of the remaining two-thirds, examination of mistakes will occupy half, correction the remainder.

For correcting dictation without undue waste of time various means may be adopted, such as letting every child look over some other child's work and correct it from the passage written out on the Black Board; or again, entrusting the exercises to some of the best spellers while theirs are being corrected by the teacher. If dictation be done in books, he will be able at any spare time to check these corrections. Words mis-spelt should always be re-written by the blunderer a sufficient number of times to impress the right spelling on the eye. To give a dictation lesson without leaving ample time for correction is to do more harm than good. A mistake uncorrected is tolerably sure to be repeated. Young and inexperienced teachers frequently choose for dictation pieces too long to allow sufficient time for correction. It is a common error also to repeat the words more than once, thereby encouraging inattention. Most teachers also dictate *too slowly*.

It will of course be well now and then to give dictation simply in order to *test* the spelling of your scholars; but this is obviously as different from a dictation *lesson* as an examination in arithmetic is from a lesson therein.

3. *Writing.*

When a Writing Lesson is to be given, the worst writers of the class, as well as the most troublesome children, should be seated in the front row; the best writers and steadiest scholars at the back; the rest in the middle. The teacher will be thus best able to overlook, *without leaving his place in front*, those who most need attention. Pens or pencils, paper, or *ruled* slates,[1] should be quietly passed to each child, and a Black Board placed at the right-hand corner of the class, so that when they begin to write

[1] This is a matter too often neglected. Every school should be supplied with ruled slates.

their eyes will be naturally directed to the copy about to be written on the board.

Every school ought to be supplied with one or more ruled Black Boards on which to set copies, but if there be only blank boards, care should be taken to *rule not draw* lines perfectly horizontal and parallel.

Capitals should be written about double the height of small letters, the tails of b, d, h, k, l, about as long above, those of f, g, j, p, q, y, about as long below the lines as is the space between the two lines, and the upper halves of p and t somewhat shorter. Special pains must be taken to *form o properly, and to let the same form plainly appear in a, d, g, and q. In all these letters the o should always be commenced at the upper part of the right-hand side.* Equal spaces should be carefully preserved between each letter in a word, as also between each word in the sentence. This evenness should be occasionally tested by actual measurement. Angular writing should be carefully avoided, and the relative proportions of the different letters always accurately observed.

While he is writing his copy the teacher should call attention to the way in which he is forming and connecting each part of every letter, as also to the precise way in which he connects each letter in every word. Faulty constructions which he would have them avoid should be carefully set down on the board. This done, the children should be directed to place their slates or books parallel to the edge of the desk, and to hold up their pens or pencils. In the latter case, a good look-out must be kept to see that no child has a pencil too short to be properly held.[1] In writing each must hold his pen or pencil about an inch from the point between the tips of the first and second fingers and the thumb, all extended nearly straight. To secure the habitual use of the two fingers it is prudent to occasionally preface a writing lesson with the following exercise by way of drill: Each child to hold up the pen between the SECOND finger and thumb, keeping the first finger erect. This has the effect

[1] To secure this, tin holders should form part of the permanent stock of every school. No pencil shorter than the full forefinger should be tolerated.

of counteracting the general tendency of ill-trained writers to hold pens with the first finger and thumb only.

Before beginning to write, the children should be told to make a quarter turn to the right, place their left fore-arms on the middle of the desk parallel to its edge (so as to keep their slates or books steady by the pressure of their left hands laid open thereon), to rest the fleshy part of their right fore-arms on the desk, with the third and fourth fingers bent inwards to give some support to their right hands. If their wrists then lie as they ought to do, *rather flat than edgewise* on the desk, the handles of the pens will point towards the right shoulder. They will now begin to write. As they write, the teacher will scrutinise each carefully, noting and at once correcting every deviation from any of the above instructions, and insisting upon every child *sitting upright with head erect and chest out*, and keeping his paper or slate straight, exactly as originally placed. Slates should not be tilted up during writing.

As soon as a whole line of writing has been completed, they should be cautioned to push their slates or books upwards away from them, instead of (as is too commonly done) gradually lowering the right arm till the wrist, or even the hand, rests on the desk, when of course all power of writing freely is lost. In writing on slates, children should not be allowed to set teeth on edge by holding their pencil too upright. The untidy habit which children too often acquire of flicking superfluous ink about to the detriment of the school floor and of their neighbour's clothes should be rigidly checked. To secure uniformity of pace in writing, the lesson should be taken in stages and a definite portion done in a definite time. At the end of each stage—that is at the end of the time which a child ought to take in writing a piece—the children should lay down pens or pencils and show their books or slates. After examining the writing the teacher will comment on and correct any mistakes which he may have noted. If the class be small and the light good, most, if not all, the writing may be inspected from the front. Examination, comment, and correction at the end of each stage will obviously tend to produce improvement in every succeeding one, as also to give variety to the lesson.

It will probably be useless to recommend the total disuse of Copybooks in schools; but where they are used it should be so arranged that the whole class work on *the same copy at the same time.* It cannot be called a writing lesson when each child is engaged on a different copy. As long as it is deemed necessary to require children to write in Copybooks at all, they should not be confined to the more advanced books, which usually contain only small-hand, but should spend a fair share of time on large hand copies, which give freedom to the wrist and tend to form a good bold hand. If Copybooks be used having but one copy on a page, the only chance of preventing children copying their own writing and repeating their own faults is to make them *begin at the bottom and advance upwards.* It would, however, be well to restrict the use of Copybooks to the upper standards, if not even altogether to banish them, as it is impossible to insist on children looking carefully at the copy set in a book, whereas a watchful teacher can ensure every one's looking up to the Black Board. The general adoption of this practice in schools would tend greatly to improve the writing of the younger teachers.

CHAPTER II.

ARITHMETIC.

In Infant Schools the practice of frequently chanting Addition, Subtraction, and Multiplication Tables is found most useful. Similarly in Boys' and Girls' Schools, frequent recitation of Multiplication Tables beyond twelve times, and of the Pence Table, is to be commended. This practice will be found of the utmost use in enabling children to do quickly the mechanical parts of their sums, and will also be of great practical use to them in shopping, or in making rapid mental reckonings in their daily occupations in after-life.

The teacher should bear in mind the necessity of explaining fully every new step taken in teaching Arithmetic, of giving clear *reasons in simple words* for *everything* done, and of ascertaining that every child is following every step. He should never assume that what is easy to himself must be easy to his scholars. He has not improbably forgotten the difficulty he himself once found, for instance, in borrowing and carrying in Subtraction sums, and feels impatient at what he deems the children's stupidity in making mistakes. He should rather blame his own want of skill for not leading them on *gradually from the known to the unknown*, thus making all so clear and sure to them that they cannot go wrong. With beginners every opportunity should be taken of giving sums that have some connection with their daily life. Thus in a town school, a teacher may say, "there are so many houses in such a street, so many in another street," and so on, letting them put the numbers down as they are given out, and then add them up; or, "so many men, so many women, so many boys, and so many girls passed by this school yesterday, how many altogether? So many chimney-pots were standing in this town on Monday; a high wind in the night knocked so many off, how many left next morning?" Similarly in country schools, "so many trees in a plantation, so many cut, how many left standing? So many cows in one field, sheep in another, horses in a third, pigs and hens in a yard, &c., how many animals altogether?" and so on *ad infinitum*.

If children have been in a good Infant School they will come up to the senior department well grounded in notation up to thousands. Pains should be taken to test and keep up this knowledge by frequently inserting 0's in the figures dictated to them. They should never be allowed to learn to work multiplication sums till they are so thoroughly at home in numeration as to put down without hesitation or mistake any figure under ten thousand. In dictating sums the teacher should never say, no hundreds, no tens. If they have been properly taught, that is, if each child has been forced to think it out clearly for himself, it will be impossible for any child, in working a subtraction sum, to bring out a result larger than the subtrahend. When such blunders occur they prove either that children have been

taught by rule of thumb, and the ill-effects not found out by sufficient testing, or else that they have been allowed to copy from one another.

Now unless from the very first a teacher makes copying or prompting impossible, he can never be thoroughly successful in teaching Arithmetic. On this subject the following from Mr. Fearon's *School Inspection* deserves attention :—

"The successful teaching of arithmetic in a public elementary school for boys is eminently a question of order and discipline. In girls' schools the unsatisfactory results in arithmetic are probably due as much to defects of knowledge of the subject on the part of the teacher, as to defects of order. But in boys' schools this is not the case. Our certificated masters have always been, within their range, good arithmeticians, and well qualified as a class both to teach the subject to their scholars, and to train their pupil-teachers to teach it. And if the results of their teaching have been in many schools unsatisfactory, the fault has been due as much to want of discipline as to anything else. And the discipline, it must be remembered, which is sufficient for teaching reading or writing, or any other subject, is *not* sufficient for the teaching of arithmetic. No serious mischief is done in a writing lesson by one of the scholars overlooking the work of another. And the evil produced by undetected prompting in a reading or geography lesson, though it is, of course, real and serious, is trifling by comparison with the harm produced by undetected copying and prompting in arithmetic. It happens also unfortunately that copying and prompting are particularly easy, and therefore specially difficult to detect, in arithmetic. One glance, or one whispered word, will often do the mischief. And teachers and examiners are always apt to underrate the powers of children in carrying on these practices so as to avoid detection. In testing how far a class has mastered the instruction which it has received in a new rule of arithmetic, or in reviewing a class in back-work, or in conducting any examination in arithmetic, it is not sufficient to place the children a few yards apart from one another, or to give different sums to alternate children, or (unless there is ample space for spreading the children out so as to leave every alternate row of desks vacant) even to give different sums to every third child. Children who are lazy, and anxious to avoid the trouble of thinking, or who have been inattentive during a lesson, and are anxious to avoid being detected and blamed for such inattention, or who have been accustomed to copy, and are therefore not self-reliant, can exercise an ingenuity which is perfectly marvellous in obtaining help at such a pinch from their fellow-scholars. No one who has not experience of schools would believe how far they can see, and how rapidly take in, the mode of working a sum pursued, or the result obtained, by their more clever or diligent class-fellows.

"*Effects of Want of Discipline in Teaching Arithmetic.*—And the effects of this copying are as disastrous in arithmetic as its practice is

easy. The way in which the evil works is this. A new process in arithmetic is taught to a class of children. The diligent and clever members of the class have taken it in quickly, while the slower or less attentive members have obtained a less thorough, or perhaps a very slight grasp of the subject. The teacher proceeds, by setting examples to be worked, to test how far his instruction has taken hold of the class. At once the temptation presents itself to those slower or careless members of the class to copy from their quicker class-fellows. And, unless the teacher detects the attempt, he may be so far deceived as to think that the whole, or almost all, of the class have mastered what he has been endeavouring to teach them, and may therefore conclude that it is safe for him to pass on to the next stage in his instruction. The further he proceeds in this course, the more helpless and dependent become the children who have taken to copying, and the more necessary is it for them to persevere and become adepts in that deceptive practice, until at last the school is visited by an examiner, who takes such precautions as make it impossible for the children to copy, and then there comes a break-down which astonishes the teacher as much as the examiner and the managers. The reason why, after the introduction of the Revised Code, so many boys' schools failed in arithmetic, was, mainly, that copying had been much more general than was suspected. The schools do much better in this subject now than they did on the first introduction of the Revised Code. Yet the teachers are no better trained in it, and their methods of teaching are very much the same. But the payment by results, and those results being tested by inspectors, who adopt measures which render copying impossible, have forced the teachers to adopt similar measures; and the effect has been a general improvement in the arithmetical acquirements of the scholars.

"*How to stop Copying in Teaching Arithmetic.*—There is only one way of making sure that copying in Arithmetic is not practised in a school, and that is to make it impossible. It is absurd to talk as if copying could be stopped by appeals to the children's honour, or by punishment of those who are detected in the practice. The sense of honour in children, in an elementary school, cannot be expected to be greater than that of Eton boys, or undergraduates, or candidates for the Civil and Military Services, and for Holy Orders. The code of honour of the examinee is naturally a different one from that of the examiner; and what examinees at the public schools and universities will freely do, unless prevented, children in elementary schools will do. As for punishment, idle or slow boys will run the risk of it. Detection is not certain, but the trouble of having to apply the mind to a difficult question is most certain. So that *the only real way to stop copying in a school is to make it impossible.* Pupil-teachers who have charge of the lower classes should always be trained in simple mechanical methods of giving from three to six different examples at once, so as to make it impossible for their scholars to copy; and they should be required to use such mechanical methods with their classes whenever they are reviewing or testing progress in arithmetic. They should also be taught, when taking a new process in arithmetic with their classes, always to work through a certain number of examples,

orally, with the children, on the Black Board, taking care to make those who are usually slow, inattentive, or inaccurate in arithmetic do the greater share of this work. It is marvellous what a reform is made in the arithmetic of a school when once steps have been taken to render copying impossible. Boys who have been inattentive, learn to attend; boys who have been in the habit of relying on others, get the habit of self-reliance, and find themselves so much happier and better that it becomes no very difficult matter, with a little care and judgment, to maintain that habit in them. And this change in their habits, as regards arithmetic, affects not only their progress in that subject, but improves their capacity and their work in all the subjects taught in the school."

To these remarks may be added a few suggestions founded on practical experience. As a rule, sums should be *dictated* to children working on slates, not written on the Black Board. When from any reason recourse must be had to the latter plan, sums should be set down in *words, not figures.* If there be not, as in every school there ought to be, ample desk room, the children may stand round their group of desks in couples, back to back, but not quite touching, each couple not less than a yard apart. They should be strictly watched as they set down and work the sums dictated. No working aloud or in a whisper should be permitted. Each should lay his slate (work downwards) at his feet if standing, or on the desk if seated, the moment he has finished his sums. In Addition sums they should be taught to add each column first upward, then downward, before setting down the total. *Every sum in Subtraction should from the very first be proved,* and the proofs left on the slate. When enough time has been given the teacher should order the children to face him, holding up slates with both hands, and he should then either (1) pass along the row chalking mistakes; or (2) collect and revise afterwards; or (3) collect, seat the children, and then redistribute the slates so that each will have another child's work to correct from the sums worked by the teacher on the Black Board.

When such an arrangement from want of space or size of class is not feasible, the children should be carefully sorted according to their teacher's knowledge of their characters, the steadiest and the quickest being seated at the back desk, the dullest and least trustworthy at the front. They should then

be directed to put alternately A and B, or more letters, on their slates. After which, for each letter a separate set of sums will be given out. During the working the teacher, as before, will carefully keep watch and at once warn by name any whose eye wanders or whose lips he may see moving. He should do his utmost to *keep all employed at once*, either in taking down, or in working, or in proving sums. When he has been teaching *new* matter, and is testing their knowledge of what he has just taught, he should adopt similar tactics, if he would not be misled by the lazy taking their cue from such as have really grasped the lesson.

From the first a teacher should not merely state but prove by numerous examples and illustrations of every kind, that multiplication is only a short way of adding. Short Division is usually taught before Long, but whether this be really well seems questionable. Certainly children so taught, being from sheer force of habit constantly troubled by a desire to ascertain the remainder, feel the utmost difficulty in tackling sums involving the division of large numbers.

When children have completely mastered the first four simple rules then, and not till then, have they laid a sure and solid foundation for all that has to follow. The next subject usually taught is Compound Addition and Subtraction; but if these are to be taught really intelligently, the children should at the same time receive instruction also in Vulgar Fractions. In the early teaching of this subject, frequent appeals should be made to matters of common observation, and the lessons should be copiously illustrated by such examples as actual sticks equally subdivided, lines drawn on the board, &c. &c. The meaning of every rule should be made thoroughly clear by continual reference to the actual things signified. Children once thoroughly grounded in Fractions will learn all else in Arithmetic, not only with ease, but with pleasure and intelligence. In short, though the subject be not required for examination purposes, it will be found to pay even for them. Unless well grounded in Fractions, children have no solid ground to tread upon when they come to the higher branches of Arithmetic, but can only learn to work by rule of thumb Practice, Proportion, Rule of Three, and all

sums involving fractional tables, or farthings, square measure, &c. As a knowledge of Fractions is not tested by actual examination in elementary schools below the Sixth Standard, and as at present a very small number of children have the advantage of remaining in attendance at school till they reach that Standard, many teachers who have not had the benefit of a thorough grounding in Arithmetic do not take the trouble to master the subject, and are therefore not unnaturally loth to teach it.

Mental Arithmetic has been too much neglected since it has formed no part of the subjects set down for examination, but its omission is a serious loss. A few minutes a week devoted to it would not be lost time, even for the Standard work. Where Mental Arithmetic is practised the children acquire a quick insight into the relations of figures which lessens their paper work, and facilitates their adoption of short and easy methods. These should be always encouraged. It may be as well here to warn young teachers against setting sums which involve long working while girls are at needlework, as is sometimes done merely to fill up time, or to keep boys employed. A number of short problems gives them far better training, though it will of course give the teacher more trouble to set the questions and look over the working.

Of Decimals some teachers seem to entertain still greater dread than of Vulgar Fractions. Yet children who have been taught before the age of seven that figures added to the left *increase by powers of ten* can surely be taught three years later that figures added to the right *decrease by powers of ten*. If a teacher's mind be once cleared of the idea that there is any real difficulty about Decimals, and if, whenever it is feasible, he will only refer everything to what children can *see*, he will be surprised to find what an interest boys at any rate can be made to take in Decimals, as also in squaring and cubing. A child requires at first not merely to be *told* that $\cdot 2 = \frac{1}{5}$, but he should be *shown* that two-tenths of a line are of the same length as one-fifth. Many a child will wonder in his mind why 4^2 is 16 when he thinks it ought to be 8, until he is shown by actual drawing that a square of which each side is divided into 4 equal lengths

contains 16 squares; why 2^3 should be 8, not 6, till he is shown by wooden cubes that there are actually eight one-inch cubes in any cube of which each side is two inches long.

If the teacher thus habitually refer figures to *things*, base his instruction on objects familiar to the children, and set them little problems such as they may any day wish to solve for their own or their friends' use, he may make Arithmetic one of the most popular, as it is one of the most useful, subjects in his school. Otherwise treated, it is necessarily one of the most irksome and wearisome both to teachers and taught. In this, as in all other subjects, it cannot be too often repeated that a teacher will do little good as long as he is content to tell children facts to be believed on his assertion, and to take no trouble to make them teach themselves by reasoning out every step. The following humorous speech of Bartle Massey the schoolmaster in *Adam Bede* aptly illustrates the above remarks :—

"Now, you see, you don't do this thing a bit better than you did a fortnight ago; and I'll tell you what's the reason. You want to learn accounts; that's well and good. But you think all you need do to learn accounts is to come to me and do sums, for an hour or so, two or three times a week; and no sooner do you get your caps on and turn out of doors again, than you sweep the whole thing clean out of your mind. You go whistling about, and take no more care what you're thinking of than if your heads were gutters for any rubbish to swill through that happened to be in the way; and if you get a good notion in 'em, it's pretty soon washed out again. You think knowledge is to be got cheap; you'll come and pay Bartle Massey sixpence a week, and he'll make you clever at figures without your taking any trouble. But knowledge is not to be got with paying sixpence let me tell you: if you're to know figures, you must turn 'em over in your own heads, and keep your thoughts fixed on 'em. There's nothing you can't turn into a sum, for there's nothing but what's got number in it,—even a fool. You may say to yourselves, I'm one fool, and Jack's another; if my fool's head weighed four pound, and Jack's three pound three ounces and three quarters, how many pennyweights heavier would my head be than Jack's? A man that had got his heart in learning figures would make sums for himself, and work 'em in his head: when he sat at his shoe-making, he'd count his stitches by

[1] The one rule in which some who are otherwise fair arithmeticians seem liable to flounder is division of decimals. The difficulties usually experienced disappear if both divisor and dividend be first reduced to whole numbers by multiplication. Thus $13{\cdot}5 \div {\cdot}15 = 1350 \div 15$; $1{\cdot}0005 \div 106{\cdot}3 = 10005 \div 1063000$; $1080 \div {\cdot}008 = 1080000 \div 8$.

fives, and then put a price on his stitches, say half a farthing, and then see how much money he could get in an hour; and then ask himself how much money he'd get in a day at that rate; and then how much ten workmen would get working three, or twenty, or a hundred years at that rate —and all the while his needle would be going just as fast as if he left his head empty for the devil to dance in. But the long and short of it is— I'll have nobody in my night school that doesn't strive to learn what he comes to learn as hard as if he was striving to get out of a dark hole into broad daylight. I'll send no man away because he's stupid: if Billy Taft, the idiot, wanted to learn anything, I'd not refuse to teach him. But I'll not throw away good knowledge on people who think they can get it by the sixpenn'orth, and carry it away with them as they would an ounce of snuff. So never come to me again if you can't show that you've been working with your own heads, instead of thinking you can pay for mine to work for you. That's the last word I've got to say to you."

CHAPTER III.

GRAMMAR.

In teaching grammar it is a common mistake of young teachers to overload children's minds with definitions and to take parrot-like repetition of phrases for a real knowledge of the things spoken of. A child over eight years of age must have been ill-taught or ill-disciplined or both if on being told to underline all the nouns in a passage which he has written down from dictation out of a reading book used in his class, he either omits to do so in the case of many nouns, or, still worse, underlines adjectives and verbs.

After a few simple lessons the child's knowledge should be easily kept up by occasional practice from reading and dictation lessons, which for this purpose may be lengthened from the thirty minutes usually allotted to each to forty or forty-five minutes.

The main difficulties arise from words which are both nouns and verbs—as blow, stroke, love, look, box, cuff, sleep, sow, name, leaves, face, fish, thought, play, rock, walk, tears, &c. These

very difficulties give a teacher opportunities he might otherwise overlook of developing the intelligence of his class in reading. Let it not be forgotten how much in this as in all subjects may be learnt from children's mistakes. The timely and judicious correction of one blunder may enable them to avoid a hundred similar mistakes into which they would otherwise fall. As *per contra* the leaving one uncorrected may lead to the commission of a hundred more. When sufficient practice has been given in picking out nouns, and distinguishing the three kinds of nouns, the teacher should go on to verbs rather than adjectives, because he will then be able to point out and make clear to the minds of his scholars the simplest form and framework of any sentence. Indeed, a clear-headed teacher may make such good use of his lessons on the noun and verb, and their invariable connection and necessity in every sentence that it will be afterwards comparatively easy to teach them to analyse a simple sentence. As in teaching arithmetic it was suggested as on the whole better that children should be taught fractions immediately after mastering the first four rules, so also it may be urged that analysis of sentences should be taught before syntactical parsing. Quite apart from any question of examination and grants, were it only to improve reading, it seems desirable that analysis of sentences should be taught much earlier than is customary.

This point is ably argued in the following passage from Mr. Fearon's work on *School Inspection* :—

"In the case of English it is absurd to waste time over learning the cases of nouns which have lost all their case-endings, and have substituted for those case-endings structural position or logical relation in the sentence. *What is wanted is to get as quickly as possible a notion of the structure of the sentence and of the logical relation of its parts.* And for this purpose the teaching of English grammar should be begun, and based throughout its course, on the analysis of sentences. The teacher should, immediately after imparting the first elementary notions and general definitions, proceed to the subject and predicate, beginning with the noun and pronoun as the subject, and with intransitive verbs, as verbs of complete predication. He should then pass on to the direct objective relations of nouns and pronouns with verbs of incomplete predication, introducing no more study of case-endings than is absolutely necessary for the purposes of the pronouns. Number, gender, person, tense, mood, and voice, should

be taught as modifications of these relations. Having thoroughly worked these forms and relations of the noun, pronoun and verb, always by means of the structure of a simple sentence, the teacher should proceed to the enlargement of the subject, and thereby introduce for the first time the so-called possessive case-ending of nouns and personal pronouns, the adjective, the noun in apposition, the possessive pronoun, and the participle. Having treated of the simplest forms of enlargement of the subject, he should proceed to the simplest forms of extension of the predicate. In this relation he should first introduce the adverb, showing its use both for extending the predicate, and, by means of the adjective, for further enlarging the subject. He should then introduce the indirect objective relation of nouns and pronouns (such as that which is called, by analogy with Latin, the dative case), always as a means of extending the predicate. All through this course of teaching, it is an essential thing that the children should be required to make and form simple sentences in various ways, so as thoroughly to understand the practical application of what they are learning to the art of speaking and writing correctly. The teacher should then go on, by way of further extension of the predicate, and of further enlargement of the subject, to the use of the preposition with nouns and pronouns. After this he should proceed to easy types of complex sentences; teaching the children the use of the subordinate sentence, and therewith introducing to them for the first time the conjunction, the relative pronoun, and those words such as 'why,' which answer the purpose of a relative pronoun and preposition combined. By this means, he will be able to teach them to distinguish with confidence between the several uses of words—such as those words which are sometimes used as conjunctions, and sometimes as relative pronouns and the like. Having thus given the children their first notions of the relations of a subordinate to a principal sentence, he should then return to the simple sentence, and should instruct the children in the various kinds of phrases, in the more difficult uses of the participle, and in the nature and functions of interjections; and after this should go back once more to the complex sentence, and carry on his teaching into the different kinds of subordinate sentences; being extremely careful at this point of his teaching to ascertain that the children see clearly the reason why any given subordinate sentence is substantival, adjectival, or adverbial, by making them always point out the word in the principal sentence upon which the subordinate sentence depends.

"*Advantage of this Method.*—Some persons may think that this way of teaching English grammar, by means, that is to say, of logical analysis, is more difficult for children than the old method of teaching it by a system of supposed inflexions, and of parsing those inflexions, based on the analogy of Latin; and may imagine that it may be too difficult for children in our elementary schools. I am perfectly convinced from observation and experience, both as an inspector and as a teacher, that this is not the case. The technical terms which it is necessary to use in teaching grammatical analysis are neither more nor less difficult in themselves than those which it is necessary to employ in teaching arithmetic, geography, or book-keeping; and they are not more difficult than the

terms which it is necessary to use in teaching grammar on the old system. As regards all such terms, whether employed in the teaching of book-keeping, or of analysis of sentences, the great point is to make the children have an intelligent understanding of the real things which underlies them, and which they represent, and this can be satisfactorily done in the case of English grammar only by means of analysis. Moreover, teachers who adopt this mode of teaching English grammar, will find that the power of getting quickly at the *sentence* is of immense advantage as a means of interesting the children, and engaging their attention, in what must otherwise appear to them a most dry and unprofitable study. As soon as a child can begin to construct sentences, he feels, as a learner in algebra feels when he is able to solve an easy problem by means of an equation, that he is really doing something; and that he has got the best of answers to that question which children are always asking secretly of themselves, if not openly of their teachers, in their studies, viz. :—'What is the use of all this?'"

Children should be encouraged to prepare some of the dryer details of Grammar from good Text-Books as Home Lessons,[1] so that the teacher's time may not be wasted on mere lists of words during school hours. It is found that children who read well instinctively analyse as they read.

CHAPTER IV.

GEOGRAPHY.

In his earliest lessons on Geography, a teacher should endeavour to awaken in the minds of his scholars a desire to know something of the earth we live on, and then to endeavour in the simplest words to turn to account and satisfy the curiosity he is gradually arousing. If a teacher begins with bald statements such as these, "The earth is round like an orange, and flat at the top and bottom. Its surface is divided into land and water; the largest division of land is called a continent, and the largest

[1] Some instructive remarks on this subject by a zealous and successful Boys' Master will be found in the Appendix.

division of water is called an ocean. An island is a piece of land entirely surrounded by water, and a lake is just the opposite, a piece of water surrounded by land," &c., &c., he runs a fair chance of disgusting his class by such lifeless mechanical treatment. In this subject, above all others, should two well-known maxims be observed,—to pass from the known to the unknown, and to do a little well in every lesson. No great fault could be found with a teacher who should begin by setting before his class a map of the world with which they have become familiar from infancy, from seeing it on the school wall, and endeavour to give them some idea of its meaning—availing himself of children's love of bright colours in pointing out the distribution of land and water. Then starting with the school, he may teach them how to find the points of the compass in the room as well as on the map. He may then take a small six-inch globe and treat it in some such way as is pointed out by an able and experienced teacher in the Appendix. When he comes to treat of the parts of land and water, he should use a tray with clay and sand, wherewith to model hills, lakes, streams, channels, islands, peninsulas, gulfs, and seas. This is especially needful in town schools. Appeals to the children's experience in forming miniature lakes by damming up gutters will serve to illustrate the formation of lakes. The formation of deltas may be illustrated after a heavy shower on any sloping road. The shifting of sunlight from desk to desk, and from house to house, the shortening and lengthening of shadows, from morn to noon, and noon to evening, the different quarters in which the sun rises and sets in spring, summer, and winter, and the different height he reaches at noontide at different seasons as shown by shadows carefully marked at set times;—these are all visible things, of which an intelligent explanation, especially if well illustrated by an orange, or ball, and a knitting needle, will leave vivid and lasting impressions on young minds. Children thus intelligently taught will love to be told how to find out by watching a tower's or chimney's shadow shorten or lengthen, whether the sun be rising or falling; how to learn the time of day at different times of the year; and the points of the compass wherever they are; and to work out little problems in such subjects. Being shown how much more

quickly a wet slate dries when held upright than when held slanting before a fire, they will see why the sun, though somewhat farther away from the earth, gives us more heat in summer than in winter. Such definitions as have to be learnt may if necessary be learnt as home lessons; but it will usually be found that children taught on the above method are quite able to define all they have learnt without using the set phrases of text-books. They will know *the things*, not merely their *names*.

In school a teacher should spend his time only in clothing with flesh and blood the dry bones supplied by text-books; in making children see the meaning of what they have learnt, and in enabling them to express their knowledge *in their own words*. He may avail himself of the lessons they have had in the Infant School, on Tea, Coffee, Animals, Fishes, &c. to interest them in the products and inhabitants of the various oceans and continents. He will draw on the Black Board plans of the room and of the school premises, then of the neighbouring streets, roads, or fields. He should always take care to place his plan, when drawn, *flat, and according to the points of the compass*, and to give his reason for so doing. By this mode of treatment he may make the geography lessons of his second standard among the most interesting instead of the most irksome parts of their years' work.

Children thus taught will be fit to profit by lessons on that part of the earth in which they live. The teacher will do better to begin with the neighbourhood of the school, rather than to take a map of England, point out the boundaries and the openings on the coast, enumerate the six northern counties, &c., &c. If there be a brook or river within reach, he will do well to make that his starting-point; to trace its course from source to mouth with all its feeders, and the larger streams which it feeds and their course; the towns and places of interest on or near its banks; the use made of the stream to turn mills; thence the rise of manufactures in various places. As soon as the children have thoroughly mastered their own river-basin (which may be aptly called a geographical unit), let them study no less thoroughly the neighbouring river-basins one by one, with their boundaries and water partings. By the time they have gone over

England in this way, with map and Black Board always before them, a class will be able to follow with intelligent interest imaginary journeys across various parts of England. Thus taught, they will have as it were a string on which to file and group their facts. They will have learnt to dovetail the river systems like the parts of a puzzle into a complete whole In the course of their lessons they will have picked up without conscious effort much information on places of historical interest, of commercial or manufacturing importance, on the character of the soil, scenery, crops, coast-line; in short, they will have learnt without drudgery all the details which many teachers deem sufficient geographical knowledge. In a good boys' school the year's work may be rounded off by interesting lessons on the causes, whether natural, historical, or accidental, which determined the position of our larger towns. Thus, to begin with London, a teacher may point out its position on the nearest navigable river to the continent—far enough up that river to force hostile ships to run the gauntlet of attacks from both shores for some fifty miles, yet not too high up stream to be approached by vessels carrying cargoes from the western shores of Europe, and conveniently central for drawing its supplies from the southern, eastern, and midland counties. Similar treatment may be applied to Bristol and Liverpool, the trading ports for Ireland and America; the gradual growth of the latter at the expense of the former being explained by its proximity to the iron, mines, coalfields, and mill streams of Lancashire, and the cheapness of waterway as compared with land carriage for raw cotton. A thoughtful and well-read teacher will find matter for instructive and interesting lessons in the circumstances of every county and every large town in England. Lessons on the battlefields will tend to create a desire to know something of history—the Welsh Marches and Cornish hills, where the British made their last stand against their Saxon and Danish invaders—the Cheviots, for centuries the battle ground of Scotch and English. History, again, will have to account for the Flemish colony in Pembrokeshire, the French weavers in Spitalfields, the Druidical remains at Stonehenge, Anglesea, and elsewhere, the Roman 'casters, cesters, 'chesters, and 'colns; the Danish 'by; the British Avons

and Pens; the English 'hams, 'thorpes, and 'burghs, &c. The Railways—their main directions and junctions, the river-basins which they follow or cross, the manufactures on the road which cause the traffic that made their construction worth while—will furnish several most interesting lessons. The old high roads will supply yet others. The smaller sea-ports, the naval docks and arsenals, the fishing stations, the smaller river systems, mineral productions, crops, local trades, will all in turn supply a master with the means of making his boys think and desire to read and improve themselves.

Such reiteration as this, so far from being wearisome, will increase the interest of the work both to the children and their teachers. All the mere catalogue work which may be deemed needful for recapitulation, such as lists of counties and county towns, coalfields, manufacturing places, &c., &c., may of course be learnt out of text-books as home lessons. The teacher's comments and illustrations will be carried to many a poor home spreading much useful information, and increasing parents' interest in their children's work.

The children will now be in a state to profit by an extension of knowledge beyond their own country to the sister kingdoms, their natural features, inhabitants, industries, and to the many British colonies and possessions. Before starting on this extensive subject they should be supplied with more definite ideas of distance and comparative size than they will have hitherto had. To do this a teacher should not merely himself content with maps of the world (all necessarily more or less incorrect, as he will find if he studies Mr. Grove's excellent primer) but he should take some place with whose size the children are personally familiar, as a neighbouring town or village, the length of the road thither, the time it takes to walk or ride there at a certain pace, and so gradually give them ideas of distance and extent of country. It is a good plan after this to ascertain now and then by casual questions whether the children realize the size of any country which they may be studying, whether it is thickly or thinly peopled, and so on. The teacher must give plenty of common-place illustrations of his meaning from every-day life. When talking of the North American lakes he may compare

their size with Ireland, and various counties of England, show how long it would take to row across at four miles an hour, and so on. It is useful too to draw rough imaginary sections across countries: so as, for instance, to illustrate the swift flow of the westward and the more sluggish course of the eastward flowing rivers of England and America. Such roughly drawn sections would furnish an easy way of comparing the heights and lengths of English and American mountains and rivers. Density and scarcity of population again might be brought home to their minds by showing the number of houses and people they might expect to meet with in walks of such and such circuits.

This year's course should also be practical, as the information imparted may some day be useful to the children if at any time compelled to emigrate in search of employment. Colonies and possessions, or dependencies should be carefully distinguished. India, Malta, Gibraltar, Aden, Singapore, Hong Kong and other places held for political, military, or commercial reasons should not be spoken of as *Colonies—i.e.*, as places in which they could settle if they wished.

Again, in talking of climate it must not be forgotten that mere verbal descriptions convey little or no meaning to children. Some idea should be given them of how the inhabitants are affected by heat, cold, drought, or moisture in various parts of the earth. Frequent reference should be made to well-known imports from various countries. Interest in the subject may be further sustained and enlarged by imaginary voyages from one seaport to another, with notices of attractive objects to be met with on the way, peculiarities of people, vegetation, physical features, &c. What cargo would be best picked up here, what best delivered there, what trade is springing up here and why, how many days at so many hours a day it would take to sail from this town to that, are some of the many questions that may be so answered as to afford instructive lessons. Overland journeys may be taken across various parts of the earth's surface, and various physical and commercial features incidentally noticed. Let frequent use be made of *blank* maps (which should be at hand in every school to save time in drawing them afresh),

and let the children be encouraged to draw maps at home of all the countries they have to study. Special care should be taken in the course of this year to explain fully and clearly the meaning of latitude and longitude, and to show how to use them in finding places and measuring distances. The changing value of degrees of longitude from the equator to the poles from sixty-nine miles to zero should be noted, and little problems worked to impress this varying quantity on the memory.

Hitherto the teaching has been confined to our own country and its possessions. The geography of Europe will make it desirable that a teacher should furbish up his knowledge of general history so as to interest his scholars in the old glories of Greece, the empire of Rome, the inroads of barbarians from the north and east, the settlement of different races in different parts of Europe, the supremacy of the Church, the political changes gradually effected during the middle ages, the foreign wars of England and France, the Bavarian battlefields, Wellington's campaigns. All this, though not absolutely necessary, besides greatly increasing the teacher's interest in his work, will give the children a more lasting knowledge of Europe than they would get from the mere study of its river systems and political divisions, because the names on the map will thus be associated in their minds with human interests and historical events.

If the work of the two preceding years has been well done it will not be found difficult to give the children some knowledge of all the countries of the world. The study of our colonies and possessions will have already started the more intelligent on the track of learning something of the rest of the continents of Asia, Africa, and America. The main physical features of these continents, the height and direction of the chief mountain ranges, and the course of the main rivers, the distribution of the races of mankind, the marvellous recent explorations of Central Africa, map-drawing, imaginary journeys and voyages will give the teacher ample scope for developing intelligence and awakening interest in the minds of his scholars, while it will supply him with a motive for keeping up his own reading and extending

his knowledge. It will, for instance, add greatly to the teacher's power of interesting his class and of impressing facts upon them if he knows something of ancient history, of the old power of Egypt and Assyria, of Babylon and Persia and Greece, of the great migrations of the human race, of the old civilization of Mexico and Peru. How much more likely is a child to remember the features of India whose imagination has been impressed by vivid accounts of Alexander's invasion of the Punjaub, of the Moguls, the gradual encroachment of the British traders, the victories of Clive and Wellesley, the Sepoy Mutiny, and other stirring incidents connected with our rule in India. How much more interesting will the steppes of Central Asia be if his master can tell him something of Genghis Khan and Tamerlane. By treating geography in this style, he will make them connect every land with its past and present inhabitants; bringing to bear a double force of association and imagination. A child so taught no sooner hears or reads of any country than he recalls some memorable event, some famous hero, something that he daily sees or handles, or some natural feature of interest.

The above may be an ideal sketch, but it is no bad thing for a teacher to have always before his mind a high ideal at which to aim.

CHAPTER V.

1. HISTORY.—2. COMMON THINGS.

1. *History.*

If the teacher's time will be wasted unless he can induce his scholars to prepare the details of geographical knowledge at their own homes, much more will it be so if they do not get up the bare facts and dates of History out of school hours. But unless the teacher read all he can of the period which the children are studying, his lessons will not be such as to encourage children to do this. In dealing with the early

history of Britain, he should draw vivid pictures of the appearance, manners, dwellings, and religious rites of the ancient Britons, of the swamps and forests which made the climate so wet and gloomy. In coming to the Roman invasion he will give them such descriptions as he is able to glean of that marvellous people. He will give them some idea of Roman houses, dress, and art; their roads, camps, &c.; will interest his class in the various efforts of the Britons to stave off defeat, their gradual acquiescence in complete subjugation, and the helpless state to which they were consequently left after 350 years of Roman occupation. He may illustrate the story by the state of modern savages under a European conqueror, as in New Zealand, South Africa, North America, and elsewhere. Lessons previously given on the East Coast of England will have prepared the scholars' minds for others on the piratical hordes of Jutes, Angles, Saxons, Danes, and Norsemen, swarming westwards across the North Sea, up Forth, Tweed, Tyne, Tees, Humber, Wash, Thames, and other openings into the defenceless country. There are now many good treatises (such as Green's *History of the English People*) in which the history of the past may be so studied as to enable a student to trace the development of the present. A teacher should study these, and endeavour to interest children in the main facts and turning-points of history, instead of loading their memories with barren lists of dates and dynasties, battles and butcheries. Unless he can do this well he will do better to leave the subject untouched.

2. *Common Things.*

Children above seven years of age, unless it may be in model schools attached to training colleges, seldom if ever receive systematic instruction in what for want of a better term may be called Common Things. There is no doubt, however, that it would be a great boon were such instruction regularly and systematically given. Such lessons, besides supplying useful and much-needed information, might be so given as to be also a valuable means of education. They would moreover be within the reach of many sensible teachers who yet lack the higher

gifts required for teaching geography or history really well. There would then be a continuity now often lacking in a child's education. In the Infant School he would receive elementary teaching in such of the simpler phenomena of daily life as he is able to understand. In the senior departments he would have more advanced lessons on the same things, and as he grows older the range of subjects would include such knowledge as is necessary to the comfort of home life.

Thus a girl leaving school at the age of twelve should be a good needlewoman, able to mark, mend, and make her own and her brother's underclothing. She should know the uses and prices of common clothing materials, and the most economical way of cooking simple food. This would tend to remove the reproach that our lower classes are the most wasteful and fastidious in the world. Systematic instruction should be given to both sexes on the laws of health, and on such parts of animal physiology as are needed for an intelligent knowledge of those laws.

The necessity and means of airing sitting and bedrooms should be brought forcibly home to the poor; so too should the duty of cleanliness, not merely of hands and face, which they will have picked up by sheer habit in school attendance, but of the whole skin, as also of clothes and dwellings, with the reasons which recommend it, and the penalties with which Nature visits neglect of her sanitary laws.

Boys should have special instruction in elementary physics, so as to understand something of the forces with which they will have to deal. The teaching should be such as will tend to implant in them a sense of their ignorance and a desire to learn more as they grow older. Thus the action of syphons, pumps, screws, inclined planes, levers, wedges, wheels, axles, and pulleys; dew, rain, hail, frost, clouds, ice, snow, winds, thunderstorms,—are all subjects of which a good teacher will be anxious to let his boys know something definite before they leave school for work. Treatment of horses, cows, pigs, dogs, and generally kindness to animals, should be taught, and it will be well if lessons be given on labour and wages questions, and on thrift.

Both sexes should be taught the proper treatment of common

accidents, burns, scalds, clothes taking fire, cuts, bruises, drowning. Good reading-books will supply the necessary materials for lessons on all these subjects. But each teacher would do well to draw up some graduated scheme of instruction, so as to secure the utmost possible advantages to all his scholars, and to induce parents to prolong their children's stay at school, in the assurance that the time there spent will have been time well spent, even for the mere purpose of money-earning in after life.

CHAPTER VI.

NEEDLEWORK.

NEEDLEWORK should occupy the first hour of afternoon school. Out of five hours one should be devoted to knitting. Special pains should be taken to see that every girl has clean hands, and that no time be wasted either in setting to work or afterwards. The hints given on class management must be strictly followed, for bad discipline is not less fatal to progress in this than in other lessons. Children's intelligence should be developed by questions on the reasons for using different stitches and materials for different garments.

Reading aloud during needlework is not desirable, as the teachers will be constantly giving instructions on some portion or other of the work, and the time allotted to the subject in school hours is too short to admit of anything likely to divert attention.

Oral lessons on *needlework* should be given in the same manner as oral lessons on any other subject. When a new stage of the subject, *stitching* or *gathering* for instance, is required to be taught to any class, the teacher draws up her notes and gives the lesson in the ordinary way. When the *practical* part of the subject is going on, the Black Board is placed in front of the class, with the rules of that portion of the subject

in which the class is engaged written down. If on going amongst her class the teacher finds that any child has failed to grasp the meaning of any part of her previous lesson, she can refer to the rules on the Black Board and repeat any necessary explanation. The elder children are called upon to reproduce these lessons and the younger ones to answer questions on them.

This system of teaching wherever it has been fairly tried has been found thoroughly successful and in every way a great improvement on the usual unmethodical practice. What used to be a weary uninteresting lesson to both teachers and scholars is now entered into by them with as much zeal and interest as any other lesson, because the children are taught to do intelligently work which before was simply mechanical,—their minds are occupied as well as their fingers.

How these lessons are appreciated by the children is shown by the fact that children often bring voluntarily, the morning after such a lesson has been given, miniature garments, made and designed by themselves at home, to show their teacher. This is encouraging to the latter, and gives the child not only pleasure, but confidence in its own powers. Many a timid child may have talent even for homely needlework lying dormant within, which in this manner may be brought out and cultivated to the child's own benefit.

Besides the making and putting together of a garment, many things may be taught in these lessons which would conduce to neatness and good taste; many hints given which will be useful to the children hereafter, such as the proper choice of material, blending of colour, &c.

In this subject mothers, as a rule, take a great deal of interest, simply because they can, more or less, help their children in this, whereas in other subjects they are more likely to hinder than to assist: whatever other home work comes unprepared, the *Needlework* is seldom if ever neglected.

Children often bring from home garments cut out by their mothers, to be made up in school. This should be discountenanced, as it tends to interfere with systematic and progressive instruction in needlework. It is somewhat as though boys were to bring their fathers' ledgers to cast up in

school by way of learning arithmetic. Where a mistress allows girls to bring material from home, she should insist on its being sent *not cut out;* and so far from undertaking to have it worked by the child who brings it, she should intrust it to the classes engaged on the various stitches required. For division of labour is of great importance in school needlework. Thus when a shirt is to be made, it should be cut out by the seniors, the hemming fixed and done by a junior class, the felled seams by a class above, the stitching by one yet higher, the button-holing and finishing off by the seniors.

To insure ample practice in patching, darning, and other mending, parents should by all means be encouraged to send to school clothes needing repairs. Where a sufficient supply of such things cannot be got from children's homes, it must be had from some other quarter, as it is most important that girls should be well instructed and thoroughly practised in all kinds of mending.

Before girls are set to make button holes, they should learn and practise the stitch on strips of hemming done by younger girls. Having thus learnt the stitch they will not be so much troubled with the raw edge when they come to work actual button holes.

The following account has been drawn up by the Head Mistress of a large and successful Girls' School.

When the school was opened, it was found on examination that, out of 300 girls admitted, very few could do any needlework, except simple hemming already fixed.

This subject was and is taken daily from two to three, except on Thursdays, when that hour is devoted to knitting. Having classified these 300 girls according to their attainments in the three R's, the teacher proceeded to examine them *individually* in Needlework.

First Step.—Each class began with strips and *black* cotton; this done, the teacher divided the class into four divisions.

Second Step.—1st Div., Strips sewn with *white* cotton.
2nd Div., ,, ,, *blue* ,,
3rd Div., ,, ,, *red* ,,
4th Div., ,, ,, *black* ,,

Now, it was the teacher's duty to examine carefully each girl's work daily, when the best worker in each division was promoted to the next above, until all were able to work with white cotton.

Third Step.—The best bag workers were allowed to work at garments, as pinafores, aprons, baby's shirts, &c., while the worse workers were engaged upon strips of white calico; after doing which satisfactorily, they also were allowed to work upon garments, all of which had to be completed by upper standards by the addition of tapes, bands, or buttons, as the case might be.

All this was successfully accomplished in two months from the opening of the school. Every child admitted into any class underwent the same examination, and her place in the needle-work class was determined thereby.

Fourth Step.—Garment workers were again divided into four divisions, so that every class had four grades of work to show, generally on the same garment, as it is easier to teach the making of *one* garment to a class than of a variety.

Assistant and Pupil Teachers are taught beforehand how to arrange and fix every part of the garment about to be sewn in class, and guided as to what hints to give to the whole class at different stages of the work, such as holding the work in stroking, pointing of needles in seaming, folding up of garments, &c. This sharpens the wits of girls in little things.

Economy of Time.

Standards 3, 4, 5, 6 have in their lap bags at all times,

1. A piece of canvas for marking.
2. ,, stocking for darning.
3. ,, linen for darning.
4. ,, calico for buttonholing.

Standards 2 and 1 have only calico for different stitches. These are for practising on when they are waiting for any information, while their teacher is engaged with individual children.

How Dull and Backward Girls are dealt with.

Many girls of eleven and twelve years of age enter school knowing very little about Needlework. They have never heard such words as *gores, gussetts, binders.* These are also classified, like the others, according to their attainments in the three R's, but are far behind the rest in Needlework.

It is advisable to deal gently with this class of children, especially if they are big. If we rob a child of her self-respect, we so far lessen her chances of success. The girl is shown how very backward she is compared with the rest of the class; what a pleasure it would be to be able to work like so-and-so (naming a *little* girl much younger than herself); and any girl can, if she will, succeed in Needlework.

After this encouragement, a girl will often take it up gladly and obediently, and produce very often, in addition to the usual home lessons, a piece of calico with some stitching, buttonholing, and gathers set into a band. If a girl is unable to succeed, the teacher gives her a little extra time daily; but if she *will not,* then compulsion is used.

Examination by Teacher.

At ten minutes to three each teacher goes round her class, while the children are at work, and ascertains that each garment is, up to the last stitch, so worked that each scholar can take her work on the morrow and go on with it. This is done while the teacher is making the register, that is, from 2 to 2·15. The teacher goes behind the scholars to see that each girl is holding her work properly. When the teacher has passed without making a remark, the girl folds up her work. If any error has been committed, the name is taken by the monitor, who follows the teacher, and both girl and teacher have to set it right after school, and so put it away ready for the next lesson.

Cutting Out.

This is taught from Standard 3 (inclusive) to Standard 6 by means of Black Board and chalk, the teacher drawing on the Black Board while the girls are engaged in marking off on paper the proper dimensions shown on the Black Board.

Cutting Out as taught in Upper Standards.

First Method.

The teacher and all the children should be supplied with material, to be afterwards made up, scissors and measure. The teacher shows every step of the process on the material she holds, and the girls imitate and follow her in each step of their practice; the teacher giving verbal directions.

Example.—For a first lesson pinafore lengths which have been before hemmed in Standard I. may be passed to each girl. All being ready:—

First Step.—Fold the breadth double.

Second Step.—Fold over again, so as to have breadth of material in four; then press down the fold, so as to leave a crease in the quarter of breadth.

Third Step.—Open last fold, and divide the double breadth into three.

Fourth Step.—Cut from back third of breadth in sloping direction to the crease down quarter of the breadth, for a distance equalling a third of double breadth.

Fifth Step.—Bring the straight top edge of second third of breadth to sloping edge of back third and thus form shoulder and sleeve.

Sixth Step.—Hollow top edge of front third and back third, beginning from the shoulder, and rounding gradually to distance of one and a half inches deep, so as to form neck.

Second Method.

When there is not sufficient material, or the articles which would be cut are not required for making up, the teacher

should draw the pattern on Black Board, either in full or reduced size. The various measurements are thus written against the respective parts. Girls should either be supplied with paper or bring newspapers from home for the purpose. They are then required to cut out in reduced scale from the pattern drawn on the Black Board ;—the teacher giving the necessary instruction at each step.

Example.—To make this more clear, we will assume the pattern to be the same as that cut out in material. The pattern drawn on Black Board is 22 inches long—width of material is 30 inches, therefore when folded double, width equals 15 inches.

Girls cut out half size ; length 11 inches, width 15 inches ;—when doubled equals $7\frac{1}{2}$ inches ; fold for quarter crease at $3\frac{3}{4}$ inches from back ; unfold and divide into three parts each $2\frac{1}{2}$ inches ; begin to cut shoulder $2\frac{1}{2}$ inches from back in sloping direction $2\frac{1}{2}$ inches, to quarter crease. For front of neck, begin $2\frac{1}{2}$ inches from front and slope out gradually $\frac{3}{4}$ inch. For back of neck slope, allow $\frac{1}{4}$ inch less than front slope in depth.

Memory.—The pattern cut at school is reproduced at home from memory, tacked together, and frequently brought trimmed according to children's taste.

APPENDIX TO PART III.

NOTES AND LESSONS BY EXPERIENCED TEACHERS.

WRITING.

On Teaching Writing.

In order to carry out the following plan, a teacher must write good copies himself, and take care that his assistants do the same.

1. Have no *tiny* or *angular* writing in the school, but insist on good round-hand. Take care that the children, in trying to write roundly, do not make their letters *square*.

2. Take care of the writing at the bottom of the school, and see that due progress is made in each standard.

3. Arrange backward and careless children, if possible, on the front desk.

Use of Black Board.

I have found Copybooks of very little use:—children seldom look at their copies, whereas a teacher may insist on their looking *at a copy on a board.* Besides, it is a much easier method, for, in the case of Copybooks, you must give *individual* teaching to most of the children, while, if using a board, your instructions are given *to the whole class.*

Hints for Standard I.

The following remarks will not apply to Standard I. in a well-taught Infant School, but to the First Standard in a Girls' School, which usually consists of newly-admitted children, who have probably never been taught to write.

Have *large-hand* here, but not too large. The distance between two lines of ordinary sized foolscap would be sufficient for the height of "*A*" for instance.

Examine the class frequently—*weekly* if possible, and point out to the teacher any badly-formed letter, as *r* or *t*—make a note of these errors in your examination record, and test the children with regard to these particular letters when next you examine. Thus, week by week, inaccuracies will become fewer and fewer. The letter *o* will need especial care. *Avoid setting long copies—one word*, or sometimes even *one letter*, will often be sufficient here; then a teacher has time to see each child's copy, and again and again take the mistakes to the board for correction.

Teach the letters somewhat in the following order, and give the pupil-teacher a table, such as below :—

(*a*) 1*st week.* / / / / ı ı ı

(*b*) 2*nd week.* *e c o i n j*

(*c*) 3*rd week.* *a d g q y*

(*d*) 4*th week.* *m v r u w*

(*e*) 5*th week.* *t b h k p*

(*f*) 6*th week.* *s x f z*

Having conquered (*a*) and (*b*), you have taught almost all the rest, for (*c*) (*d*) and (*e*) will be found to be, more or less, combinations of these.

Take *one* new letter each day, and frequently practise those previously learned, or the children will forget.

Hints for a Teacher appointed to a school where almost all the children write badly.

Supposing a teacher to find himself appointed to a school in which the writing is bad throughout, then he must teach elementary strokes, and have single letters practised, even in the First Class.

She might occupy a few minutes at the beginning of every *dictation lesson* in using the board, and she will soon find improvement. Of course, if the children are not watching the teacher while forming the letters, &c., her discipline is at fault, and the Black Board method is a failure.

Method.

Methods must vary:—the following is *one plan.* (I use the *dictation books* because if a set of books were kept on purpose for copies, time would be lost in giving them out.)

Standards IV., V., VI.; 35 girls.

Take any letters that you have noticed to have been particularly badly-formed, and write them on the board.

First day.—e.g., o a d q. Have this written *four times,* then proceed with dictation lesson.

Another day—bhkl must be of the same height.

Again, gjy „ „ „ length.

Written in *large* or *text* hand.

Either of these copies will be quite sufficient for one lesson. Take care that all eyes are watching the teacher:—point out mistakes they are likely to make. When you notice a mistake made, stop the lesson for a minute, take the mistake to the board —*exaggerate it* if you like, in order that it may be seen. The children will soon learn to correct each other's mistakes, and the child who made the error will be more careful in future.

On another occasion, show that letters must be *of the same size*, as otherwise children will write letters reaching different levels, especially at the top. (I generally write the mistake on the board, then cancel it, and show how it should have been written.)

At another lesson show that *letters must be properly joined*, and that the hand must not be lifted too frequently—thus *merrily* may be written without lifting the hand at all. If the hand be raised too often, we find the children writing words with letters disjoined or imperfectly joined. (Illustrate this on the board.)

Treat *Capital Letters* and *Figures* in the same way.

The above are only a few examples of mistakes which may and do arise: the teacher must constantly look out for errors, and battle with them at once.

When the children have improved, take four or five words from the beginning of the dictation exercise, and write them on the board. Then continue the sentence, going round the class from time to time, and let your visits be constantly paid to backward and careless children. The latter should be made to write the copy a few times after school-hours, for when they become aware that they will be obliged to take pains, their common sense gradually leads them to do it *at the right time*.

Conquer the difficulties *by degrees*, and be careful to take very little at a time, otherwise your dictation lesson will be too short.

Have the same plan carried out by the assistants and pupil-teachers in all the Standards.

Take care that the children in Standard II. write in books at least twice a week, then you will have no difficulty with paper work in Standard III.

Constant Supervision by Mistress.

Examine each class weekly or fortnightly, and mark any papers which are written badly. (The correction of examination papers must often be done *after school-hours.*)

Treat a badly-formed letter as a mistake in spelling, to be written a certain number of times as an error.

Look for improvement on every occasion among the children who have failed, for young teachers are apt to neglect backward and dull pupils: it is much pleasanter and easier to teach intelligent, careful children.

No plan will answer unless thoroughly well carried out. A teacher must not think writing or any other subject can be taught by *fits and starts.* She must watch for weaknesses from the very commencement of the year; it is not a good lesson given *now-and-then* which will achieve good results, but constant, steady work during each and every day of the school year.

ARITHMETIC.

1. *Reduction* (*Money*).

Our Lesson in Arithmetic to-day is to learn what is called Reduction. But first I want you to understand what I mean by Reduction or reducing. I may read in the newspaper amongst the war news that the Russian (or Turkish) army has been "reduced" by so many (say 4,000) men. That, you will at once say, means it has been *made less* by that number of men. You would be quite right. The word Reduction does have that meaning, but it is not in that sense that I shall use the word in Arithmetic. We shall take it to mean "bringing back" one thing—to become another thing—which it may have been before. For instance: if you had at first four farthings which you have given to your mother in exchange for a penny, it would be by Reduction that I should show you (if you did not

already know) how many farthings you could get back for it. Why, you will say, that is nothing but "changing." You are quite right. "Reduction of money" is another name for "changing money." In fact, if I send you for "change for a shilling," you have worked a sum in Reduction when you bring me back twelve pennies for it. You have not altered the *value* of the money I gave you, but you have "*changed*" or "reduced" it to another kind of coin.

And now, having learnt what Reduction *means*, you may think that, as changing a pound for twenty shillings, or a shilling for twelve pence, is so easy there is no need to have a special rule of Arithmetic for it. Such would indeed be the case if we had always a single amount (as pounds) and never a mixed amount (made up perhaps of pounds, pence, and farthings) to deal with. I want, however, to show you a plan by which we may be able to reduce such a mixed amount as, say, £8 16*s.* 4½*d.* to farthings.

We will suppose there are in a certain street three shops; the first where they will only change sovereigns for shillings, the second where they will only take shillings and give pence in return, and the third where only farthings are given as change for pence.

£
8 I have at first.
20

160*s.*, change given at first shop.

I will go then to the first shop (which I call the shilling shop) with my eight sovereigns. Now suppose one of you is employed in the shop to give change. You will know that for each sovereign I bring, you can give me in return 20 shillings; so for my 8 sovereigns you can let me have 8 twenties (or twenty times 8) in shillings. That by Multiplication (see Black Board) will be 160 shillings. These I take home and put along with my 16 shillings which I have already, making in all 176 shillings.

160*s.*, change at first shop.
16 at home to be added.

176*s.*, number of shillings to take to second shop.

These I take to the "pence shop" (No. 2). We saw a little time since that for 1 shilling you would bring me back 12 pence. So for 2 shillings you would bring me (in pence) 2 twelves; for 3 shillings, 3 twelves; and therefore for 176 shillings you would get 176 twelves, or 176 times twelve (see Black Board), which we find to be 2112 pence. To these I add my 10 pence which I have at home, making up my pennies to 2122.

176*s.*
12

2112*d.*, change given at second shop.

2112*d.*, change at second shop.
10, at home to be added.

2122*d.*, number of pence to take to third shop.

And now I have but one more journey to make, viz., to the farthings shop. You know well that for every penny I take I shall receive four farthings. So if I take a thousand pennies, I shall receive four times that number of farthings. Therefore for 2122 pence I shall receive 4 times 2122 farthings, which you will see by the Black Board gives me 8488 farthings. But I have had 1 farthing at home from the first. This I put along with my 8488 others, and find the whole £8 16*s.* 10¼*d.* changed or reduced to 8489 farthings.

2122*d.*
4

8488 *far.*, change from third shop.
1 *far.* to be added.

Ans. 8489, number of farthings required.

And this is the answer to our sum. Another time we shall learn how to change, or bring it back again, that is, how to restore our 8489 farthings to our original sum of £8 16*s.* 10¼*d.*

We will conclude this Lesson by arranging the sum (so as to take up less space) all in one, and not in separate parts, as I did when first teaching you. We get in shillings 20 times the number of pounds, multiplying by 20; this, with 16 added, = 176 pence.

Our pence will be 12 times as many as our shillings; so multiply by 12 and add in 10. This = 2122 pence. For every penny we receive four farthings; so multiply by four and add in 1 farthing. This gives 8489 farthings as our answer.

£ *s.* *d.*
8 16 4¼
20

176 *shillings*
12

2122 *pence*
4

Ans. 8489 *farthings.*

2. *Least Common*

Subject Matter.

I. *Definition of Terms to be Used.*

1. *Multiple.* A multiple of a number is that number which contains it an exact number of times, as :—

18 of 3, 12 of 4, 90 of 10.

2. *Common Multiple.* A common multiple of two or more numbers is a number which contains each of them an exact number of times, as :—

6 of 2 and 3, 36 of 12, 9 and 4.

3. *Least Common Multiple.* The L.C.M. of two or more numbers is the least number which contains each of them an exact number of times, as :—

48 of 16 and 12.

4. *Prime Number* is one that has no measure except unity and itself, as :—

3, 11, 13, &c.

5. *Factors.* The factors of a number are those numbers which when multiplied together produce that number, as :—

3, 2, 5 of 30; 7, 3, 2 of 42.

II. *Examples.*

In Arithmetic we find the L.C.M. of any numbers by resolving each number into its prime factors.

Find the L.C.M. of 8, 12, and 15.

III. *Use.*

To enable the pupil to work examples in Addition and Subtraction of Fractions.

Multiple.

Method.

Let the children give similar examples.

Ask the children for C.M. of 5 and 3; 8, 6 and 4, &c.

Ask for the L.C.M. of 4, 3, and 2; 5 and 10, &c.
Explain that all numbers which are not prime are said to be compound, that is compounded of prime numbers as factors, as 6—which is made up of the factors 2 and 3.

Resolve each number into its prime factors $8 = 2 \times 2 \times 2$
$12 = 2 \times 2 \times 3$
$15 = 3 \times 5$

(1) Then point out that as
8 = product of $2 \times 2 \times 2$.
(2) Therefore the L.C.M. of
8 and 12 = product of $2 \times 2 \times 2 \times 3$.
(3) And the L.C.M. of
8, 12, and 15 = product of $2 \times 2 \times 2 \times 3 \times 5 = 120$.
Show that 2×2 being included in (1) were not required in (2), also that 3 being included in (2) was not required in (3).

Give a test sum for the children to work on their slates.

3. *Solving Arithmetical Problems*

Subject Matter.

I. *Advantages of the System.*

1. It is a logical method of finding the required answers to Arithmetical problems.
2. It is a method which exercises the mind, and therefore more valuable than one which enables the pupil to obtain a correct answer but in an unintelligible manner.

II. *Mode of solving a problem.*

1. Divide the problem into its two parts, namely, the statement and question.
2. Write down the statement in such a way that the last term mentioned is of the same denomination as the required result.
3. Next reduce the first term to unity.
4. Lastly introduce the number contained in the question and simplify the last term, which gives the answer.

III. *Use.*

By this method all problems in Simple and Compound Proportion can be solved, and by a modification in the details of working, almost all Arithmetical problems can be worked out.

by First Principles.

Method

1. Here take an example: "If 10 lb. of butter cost 19*s.*, what will 15 lb. cost," and show that :—
   "10 lb. of butter cost 19*s.*" is the "statement," and
   "what will 15 lb. cost" is the "question."
2. If 10 lb. of butter cost 19*s.*

3. Then 1 lb. of butter will cost $\frac{19}{10}$*s.*

4. Therefore 15 lb. of butter will cost $\frac{19 \times 15}{10}$*s.* $= \frac{285}{10}$*s.*
   $=$ 25*s.* 6*d.* *Ans.*

   Here explain the above working thus :—
   $15 \times 15 = 285$; $285 \div 10 = 28$*s.* 6*d.* or $28\frac{1}{2}$*s.*
   Also explain that any number or factor common to both lines of figures may be struck out, as for example, 5 will divide 15 in the upper line and 10 in the lower line, leaving

$$\frac{19 \times \cancel{15}^{3}}{\cancel{10}_{2}} = \frac{19 \times 3}{2} = 28\tfrac{1}{2}\text{s. or } 28\text{s. } 6\text{d.}$$

Give a simple problem to be solved by the children while the division II. remains on the B.B.

GRAMMAR.

The Noun.—Standard I.

I. *What it is.*—Get from children a list of names of things in the room, street, at home, or their own names, &c., and write them on the Large Slate as they are given. (Each child to spell the name he gives.) The list might appear thus :—Book, slate, pencil, cat, box, Jane, dog, mouse, London, &c., &c. These names to be examined, when the children will discover that they can be arranged in four classes, *e.g.*, Take the first word, "book," ask of what it is the name. If children do not give at once the word "thing," ask who can give one name for book, chair, table, &c. Write "T" (for thing) beside "book," and require children to find out the next name of a thing on the slate. Write "T" beside that. All the names of things to be marked. Then take the next words, "cat," "Jane," and "London," and treat them in a similar way.

The names then to be written in four columns, with the titles, Persons, Places, Animals, and Things, at the head of each. Children to repeat—"There are four kinds of names, names of persons, names of places, names of animals, and names of things."

II. *Name and Definition.*—Children to be told that we have one name for all these words. They are called Nouns. Children to read the Nouns from the Slate. To be asked what a Noun is. (A name.) Then ask how many kinds of names, and thus get the whole definition, which should be written on the Large Slate—*A Noun is the name of a person, place, animal, or thing.*

III. *Exercises.*—The definition should be read several times from the Slate, then repeated without the Slate, both simultaneously and individually.

Children to be required to give Nouns of all kinds.

Teacher should write sentences on the Slate, children to pick but the Nouns. Children to pick out Nouns from their Reading Books, and as a home exercise they might write them.

GEOGRAPHY.[1]

MOTIONS OF THE EARTH.

I. The Earth Moves.

When I wake on a bright summer's morning, I find each day the sun shining in at my bedroom window (call this *A* and mark on Black Board). But when I go home at twelve o'clock (mid-day) I do not find the sun in the same position; but the blinds of another and always the same window (*B*) have to be let down to keep out the light of the sun; whilst in the afternoon the blinds of another (but each day the same) window (*C*) have to be lowered. Now I want you, children, to help me to find out how this is.

If the sun shine this morning into window *A*, and when I get home at twelve o'clock I find it shining into that marked *B*, I shall be certain that either the sun or my house must have moved. You will say, if you go home with me, and see the house appears in exactly the same position as it always is, you are sure it is not *my house* that has moved. But do not just yet be too certain. Have you ever been sitting in a railway-train just starting from a station, whilst another train was standing still on the line close by you? If so, no doubt you noticed that it *seemed* as though the other train was moving, whilst your train *seemed* to be stopping. Or if your train was really still, and the other moving, it *seemed* as though yours was moving and the other standing still. In fact, if you are in a railway-train, it is hard for you to tell whether it is your train or the other which is moving or stopping—any one may easily be deceived. And it is just in this way that you and many others are deceived as to whether it is the earth or sun that moves. But learned men, who have thought very much about

[1] It has not been thought necessary to insert in this lesson the figures referred to, because they are such as any teacher, unable to construct them for himself, will find in any geographical text book.

this matter, and have studied to find out how the sun acts with regard to the moon and planets (the largest and brightest stars seen in the sky), have settled this point for us—that it is the earth, not the sun, which actually moves.

(Question on above, to see if scholars fully understand that the earth is not still, but moves with regard to the sun.)

II. The Earth Spins Round Once a Day.

Having now found that the earth moves, I want you to learn in what way it moves. I have here in my hand a top—a "castle top," I think you call it—to be spun with a string. Suppose one of you to be asked to spin it (I have no doubt many of you could). Whilst it was spinning, some one of you might be able to take it up, and (spinning all the time) would be able to rest it on some spot of your hand to spin, that it would go round so rapidly and be so steady as to appear to be quite still —that it would, as you say, "go to sleep." Now suppose the boy doing that were in a dark room, and instead of a top he had spinning on a spot in his hand a very large ball with a small patch (*A*) of paper stuck on one side, having a pin driven in the ball, whilst I stood near with a lighted candle. It is very easy to see that each time as the bit of paper came opposite the candle, it would be like my window *A* with the light shining fully upon it. But the sun shone only once each day directly into my bedroom window *A*. What must I do with my large ball to make the light shine fully on the paper *A* only once in a day—that is, have the ball exactly like our earth? Make the ball move round once in a day. And that is just what the earth does. It moves as though it spun on a pin, going round once in a day of twenty-four hours. This we call its daily motion: and so rapid is this movement, that you and I are now spinning round at the rate of about 1,000 miles an hour.

(Review, by questioning, the parts I. and II. already done.)

III. The Earth Travels Round the Sun Once a Year.

But we have something yet more to learn about the way the earth moves. Some boys are so clever (to come back to the top-

spinning) that they can, whilst the top is going round, take the string with which they spin it, and draw the top about from one spot to another. Let us be supposed to draw the top around a mark on the floor, such as I make on the Black Board. Then you have your top spinning *exactly* in the way the earth goes round—that is, whilst it is spinning on the spike or point it is not still, like the top on your hand, but also going round a path, like your top might be drawn round a garden-path; and this path (or orbit) in the case of the earth is the long journey it has to make once a year, requiring the earth to travel at the rate of twenty miles in a second. This we call the earth's yearly motion.

The earth then, you see, moves in two different ways, viz., *spinning* and *travelling*. It goes (once a year—365 days) round a path, with the sun in the middle of this path. At the same time it also spins round (once a day) 365 times whilst it is going once round the sun.

(Recapitulate.)

IV. Effect of Earth's Spinning: Day and Night.

We will now go back to the large ball spinning in a dark room with the light held near to it. You will easily see that as often as the paper *A* comes opposite the light, the half of the ball, on that side, will be light, and the other half dark. Now, as we have seen, the earth goes round, as it were, on a pin (properly called its axis) only once a day; it must follow that at each turn or spin the earth makes, any spot like *A* will have light and dark, or, as we call it, day and night. We see, then, that day and night are caused by the constant spinning of the earth—that part being in the light of day which is near to the sun, whilst the part that is farthest away is in darkness.

(Recapitulate.)

V. Effect of the Earth's Travelling: the Seasons.

And as the daily (spinning) motion of the earth gives us day and night, so the yearly (travelling) motion gives us our four seasons—Spring, Summer, Autumn, and Winter.

This being the most difficult part of our Lesson, I shall want for it your best attention.[1]

I have already shown you the shape of the path around which the earth travels whilst spinning. You would readily imagine that the earth must be warmer when at *A* and *B*, nearer the sun (*S*), than at *C* and *D*, farther away. And this would be the case if the shape of the path or orbit *only* had to be considered.

Now all along we have been supposing the earth to stand upright whilst spinning, but such is not really the case. It is tipped towards one side, as I show on Black Board, and this "tipping" is the real cause of our seasons. For when the earth is at *C*, we, living in northern latitudes (or northern parts of the world)—say anywhere on the line *nl*—are more exposed to the sun than at *D*, where we are turned away from it. Consequently at *D* we have our winter, whilst at *C* we are in summer. At *A* and *B* (between the other positions) we have a medium heat answering to the seasons, Spring and Autumn.

VI. Unequal Length of Days and Nights.

The same cause (viz., the earth's leaning to our side) which gives us the seasons also gives us our days and nights of unequal lengths. For when we are at *C*, our days must be long and nights short, whilst at *D* the reverse is the case, that is, we have long nights and short days. At *A* and *B* the days and nights are of the same length.

(Recapitulate the whole by Examination.)

VII. Points of Compass.

Four Cardinal Points.—Directions of Things about us.

If I ask any boy in this class to point on the map before us (have a map of England in front) to the north, south, east, or west he would I have no doubt be able to do it. He would point to the bottom as south and to the top as north. If I ask

[1] It would perhaps be best to take the seasons as a separate lesson, when the question might be more fully entered into.

the same boy to show me in which direction I must walk to go from a town in the south (at the botton of the map) to another in the north (at the top) I hope he would not say, go upward, because it lies in an upward direction on the map; or to walk to a town in the south, I hope he would not say go downwards as though it were through the floor But some boys without thinking have given such answers. Let us try to see where the mistake arises. When you look at a map it is generally hung up before you so that all may see it more easily, but you do not by that plan see places in their proper positions. To do so the map must be supposed to lie flat on the floor. But then comes the question, in what direction is it to lie on the floor? Is the top of the map (the north) to lie nearest to, or farthest from me? We will see. Take this room now. We want to find out which is the north. We will suppose it to be 12 o'clock in the middle of the day. From our lessons on the motions of the earth we have found that the sun shines in the south at that time. Let us turn our back in that direction. We must then have our face to the north. The east will be on our right hand, and the west on our left. Here then we find in which direction to place the north of our map. Or again, suppose it is afternoon or evening; the sun will then show us the west. From this we may find the other three points. Or in the early morning the sun finds for us the east. Again, we can make out the other points. So that you see when we are in any room, in any field, or on the sea, when we want to find the direction in which we are to walk or sail, to get to a certain place, all that we need to know what o'clock it is, and to note (in the day time) the position of the sun. (To find our points of direction at night shall be shown further on.)

Several examples of this should then be tried, as—

I. "If I start at twelve o'clock to walk from London to York (show on map) shall I go towards or away from the sun—will the sun be before my face or behind my back?"

II. "In starting the same journey early in the morning would the sun be shining in my face or elsewhere?"

III. "A ship was wrecked, suppose in the English Channel. Two men who succeeded in getting into a boat wish to steer for

the coast of England. How do they know which way to make for? Suppose it be six o'clock on a summer's evening, on which side of them must they keep the sun?"

In what I have hitherto said, I have supposed you to be able to know the time. Now I want you to be very exact in showing me the directions of north, south, east, or west, and yet find out your own time. The sun does not in summer rise in exactly the same part of the east as in winter. Neither does it set in the same part of the west. So the rising and setting of the sun will not give us an *exact* direction by which to find out our four points (north, south, east, west). We must look to the sun at midday. But then to find when it is midday without a clock or watch is just the difficulty. Suppose I lock you up in a box, and take you to a field near this town, and then let you out, asking you to start and walk to the north of England. What would you do? Find first when it is twelve o'clock—but how? You have noticed that the sun rises higher and higher in the sky until midday, and then begins gradually to go down till it sets. You know also that when you walk along a road with the sun low down in the sky, your body throws a long shadow on the ground, and when the sun is higher, your shadow is shorter. We have therefore this law, "the higher the sun the shorter the shadow," so that if a stick be stuck in the ground, and the time be noticed at which the shadow is *shortest*, that time will be twelve o'clock. Well then having found the time, our task is easy, set your back to the sun, and walking away from it, you will be going in a northerly direction.

But at night we have not the sun to help us. You will say, how do we go on then? In these northern countries we have a set of stars called "Charles's Wain." (See diagram on Black Board.) These stars only move as a whole, that is, never change their position with regard to each other. The two stars I have marked *A* and *B* always point towards another star (marked *P.S.*), called the Polar or North Star. This is almost directly over the North Pole of the earth, so that at night the *north* is found for us, and from this we find any other point we may wish for.

In southern countries (on the other side of the world) is found he Southern Cross (see diagram on Black Board) which points to

the South Pole, although not a South Polar Star, as we in England have a North Polar Star shown by Charles's Wain.

Note.—Numerous questions bearing upon every-day occurrences should be asked here as well as at other parts of the lesson, such as finding out the various parts of a house or town, marking north, south, east, or west of towns, important buildings, or streets, the direction of one village from another, &c.

Having thoroughly fixed in the minds of the children the four cardinal (chief) points, it will be easy at intervals to teach the others, as between north and east lies north, and so on of all the thirty-two points of the entire compass.

NOTES OF A LESSON ON THE HUMAN EAR.

Class.—Standards IV., V., and VI.

Time.—Thirty-five minutes.

Aim.—To teach something of the structure of the ear and to show the danger of injuring it.

Methods.—Catechetical, picturing out and exhibitory, explanation and oral illustration.

Faculties to be Cultivated.—Reflection, memory, observation.

Apparatus and Illustrations.—Black Boards and easels for the abstract and sketch of the ear, chalk, duster, pointer, a bell, honey-comb, and a syringe.

The Abstract on the Black Board to consist of all subdivisions, and the underlined words in Hd. I. to be written out with the help of the class as the lesson proceeds, and copied as a home lesson afterwards.

I. The Parts of the Ear.

Introduce the lesson by obtaining the names of the five senses, also the name of the organ by which we hear sounds. Write out "The Human Ear" as the subject of the lesson.

(1) *The Outer Ear.*—Explain that only a small portion of the ear can be seen and that this external part is nearly a semicircle. Draw from the class that this part *is made of gristle covered with*

thin skin, and that it is folded into hollows or ridges. Lead them to see that if the ear were flat the sounds would rebound, but being in hollows sounds are reflected, as in the Whispering Gallery of St. Paul's Cathedral.

(2) *The Middle Ear.*—Show by the sketch that the passage from the outer ear *is like a pipe, and* state that it is *about an inch and a half long*, also that it enters into a bone which encases the rest of the ear. Draw from the girls that *it contains a little wax.* State that this sometimes accumulates in such quantities that it causes deafness.

(3) *The Inner Ear.*—By observation of the sketch and by explanation, show that the end of the tube is covered with a thin skin called the membrane of the drum. Behind *is a chamber full of air* which is connected with the throat. If this were not the case the membrane of the drum would be strained by the outer air and deafness would ensue. It is encased in the hardest bone in the body, which resembles a honey-comb (exhibit), and can be felt behind the outer ear. Inside the chamber is a chain of bones—the hammer, anvil, stirrup, and orb which move by the action of the muscles. Behind is a chamber *called a labyrinth.* (Explain.)

II. How Sounds are Conveyed to the Ear.

Explain that when a sound is made, as by the ringing of a bell, the surrounding air is pushed out of its place, moves in waves and enters the ear. Then it presses against the membrane of the drum, which being kept on the stretch by one muscle and slackened by another, gently moves the string of bones and they send the sounds into the labyrinth.

III. Common Practices which are Injurious to the Ear.

(1) *Boxing Ears.*—Draw from the class that a blow on the ear causes a singing noise, and explain that the air has been forcibly pushed on the drum, which being so thin and unsupported might and often does burst, as the air cannot escape in any other way

except into the top of the throat. Draw from them that deafness and nervousness are thus produced.

(2) *Cotton wool, pieces of fig and onion constantly kept in the Ear.*—Draw from the girls that wool keeps out the cold and wind, but should only be used when a person is out of doors, as it irritates the skin, as do the fig and onion. Explain that for the ear ache, hot water and flannel, or poppy head fomentations should be applied.

(3) *Throwing snow at, or getting cold water into the Ear.*—Lead them to see that the former is apt to clog together and so cause inflammation and that the latter causes giddiness.

(4) *Cleaning the passages of the Ear.* First. *With the screwed-up corner of a towel.*—Draw from the class that this is to remove the wax, and from what they have learnt they will see that it causes a pressure on the membrane of the drum and may injure it. State that should deafness be caused by accumulation, careful syringing by a doctor will remove it. Second. *With an ear pick.* Draw from the girls that a push or knock whilst using this might burst the delicate membrane before spoken of. Show that the ear should be well washed and dried every day.

(Recapitulation to be used at the end of each head.)

HOME LESSONS.

Two essentials to success with these are required—System and Persistency. They should be either fully carried out or entirely let alone. If attempted by halves, trouble, failure, and disappointment will result. Habits of carelessness will likewise grow up in the pupils. On the contrary, if judiciously pursued, they will promote order, neatness, and perseverance. They will aid largely in strengthening the memory, and also assist in the formation of self-reliance. They are an excellent test of work done in the day, and afford opportunities to parents to interest themselves in their children's studies. They serve likewise as a guide to character. Home lessons should commence early, even in Standard I. if carefully selected; *e.g.*, a table, a little transcription, or an easy rhyme. In Standard II. writing from

memory may be added. Many little ones have excellent memories. Arithmetic with a little geography or spelling should be set. In Standards III., IV., V., VI., the same graduation and variety must be carried out; here geography, grammar, history, and mapping exercises may be added. All home work should be done on paper and written in ink, except in Standard I. Slates are a source of much annoyance, and afford ready excuses, especially on wet days. The books should be ruled "double small" for legibility. There need not be much difficulty about procuring books. They can be had from ½*d.* upwards. It is important to have a definite plan. Geometry, history, grammar, &c., on certain settled evenings. Tables, dates, and meanings should be required regularly, of course not in large quantities. By this means much is learned imperceptibly.

In upper classes parsing can be done daily. Experience and practice will suggest the various modifications required by circumstances, but in the main the foregoing may be adopted. Composition may be largely used. Very few days pass in which some lessons will not be all the better learned for being re-written. A good system of "Home Lessons" presupposes a "special time" for them, and that time *invariably* used. In addition, the scholars must have a due supply of suitable books, according to their age and class; they need not be costly. There will under any system, of course, be difficulties to encounter at first, but these will soon be overcome, even in country districts. Scholars will soon understand they are to have books—use them, and keep them. Parents too, in the end, will think more highly of the school where systematic home lessons are required, even though the fees be not so apparently cheap as at other schools.

A great danger attending written answers in "home lessons" is careless or slovenly correction, especially where the classes are large. Practice and tact soon enable one to get over the work speedily and well. Monitors can be utilised in looking over arithmetic, hearing tables, dates, and rules. Very sharp some of them prove at detecting idlers and shirkers. As a rule, excuses should not be taken, and they will soon cease to be offered. The great point is, the *certainty* that the lessons

will regularly be *heard and examined.* Boys then become so used to having home lessons heard that they are most unwilling to have them passed over. There are boys who for many years have scarce ever failed to bring their "home lessons" save for unavoidable causes. Those boys are characterised by habits of order, neatness, and industry. Too much copying out should be avoided. Getting up "notes" and other "information" from suitable text-books should be required and insisted on at intervals. For map-drawing boys should be encouraged to have a separate book. If prizes are offered for the best "set" so much the better. Home lessons can thus be made habitual. It is rather difficult to decide whether printed books of "home lessons," or those set upon the Black Board are to be preferred. Both have their special advantages. Books often have either too much or too little of what is required. A blending of both is perhaps the best. In the lower classes with young teachers, books are perhaps better.

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